BUSINESS CONSULTANCY PROJECT

Mobile Financial Services in Azerbaijan
Implementation in “Azercell Telecom” LLC

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Abstract

Mobile business has been transformed into the most pivotal source of the development of banking due to the ubiquitous nature of the mobile devices intensified by the strengthened importance of the mobile business. Moreover, mobile devices contribute to the facilitation of innovation that will lead to the quick transformation of retail banking across the world. Furthermore, banks and other financial institutions possess more vital resources to make investments in mobile novelties and for taking advantages of the strengthened development of the mobile banking. (Krishnan, 2014).

Azerbaijan finance and telecommunication markets are prone to constant changes due to fluctuations in the economy, changing legislation, increasing digitalization level of customers' expectations, improving financial inclusion level and strengthening interest and support of the government to digital aspects of the economy. Strengthened rivalry on telecom market leading to challenges and problems, fosters telecommunication companies, including "Azercell Telecom" to consider new opportunities and revenue streams for attracting new customers and keeping the retention rate stable. Digitalization of all spheres of business requires the appropriate improvements in the processes, products, and services provided by telecom companies for enhancement of the competitive position in an imperfectly competitive business environment and ensuring its steady growth.

The purpose of this Business Consultancy Project (BCP) is the identification of advantages and disadvantages of MFS launching by "Azercell Telecom" in the current environment. Moreover, changes in legislation, increased attention and support of government to the growing share of electronic payments in the economy and general digitalization of payment industry leading to more transparent economy, might influence the development of telecommunication field positively.

This BCP analyzes the finance, telecommunication and MFS fields in Azerbaijan and around the globe, the position of "Azercell Telecom" in the market and opportunities of competitive edge, specifics of MFS, financial feasibility of launching new service and other related matters. To identify the factors influencing the process and outcome of the implementation of MFS, various analytical tools and academic frameworks were implemented, such as: SWOT Analysis, Porter's Five Forces, PEST and seven-pillar MFS development measurement tool.

The conducted analysis including financial feasibility of the project resulted in the recommendation to implement MFS by "Azercell Telecom" through the cooperation with one of the most reliable and developed banks in Azerbaijan, "Pasha Bank", due to favorable ongoing legal amendments, internal and external factors, evident financial and reputational benefits, investment analysis, high level of digital development and existing resources of the Partner and other aspects. The proposed changes in legislation, including strategic Roadmap reflecting various aspects involving the significance of electronic payments and development of telecom industry suppose the creation of the favorable environment for the MFS development in Azerbaijan.

Keywords: Telecommunication, MFS, "Azercell Telecom", financial, development.

List of Acronyms.

AAGR -Average annual growth rate

ABA- Azerbaijan Commercial and Cooperative Banks Association

APA-Aztelekom Production Association

BITRIB- Baku Telephone Communication Production Association

CAGR-Compound Annual Growth Rate

CBA-Central Bank of Azerbaijan

CRM-Customer Retention Management system

ERP- Enterprise Resource Planning

FCIS-Financial Capability and Inclusion Survey

FIMSA- Financial Market Supervisory Authority

FTTH-Fiber to the Home

GPP -Government Payment Portal

GSMA- Global System Mobile Association

IBA -International Bank of Azerbaijan

ICT-Information Communication Technology

IOT-Internet of Things

ISP-Independent Service Provider

ITU- International Telecommunication Union

LPWAN- Low-power wide-area network

MCHT -Ministry of the Communications and High Technologies

MFS-Mobile Financial Services

MNO- Mobile Network Operator

MNP-Mobile Number Portability

MPA-Mobile Payment Alliance

MST-Magnetic secure transmission

NFC-Near field Communication

NFV-Network Functions Virtualization

NPS-National Payment System

NPS-Net promoter scores

OTT- Over the Top

POS-Point of Sales Payment System

PSTN- Public Switched Telecommunication Network

QR-Quick Response

TASIM-Trans-Eurasian Information Super Highway

UMTS -Universal Mobile Telecommunications System

VAS- Value-Added Services

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1.Introduction.

1.1 Mobile Telecom Industry Outlook.

Information and Communication Technologies are the pivotal engines in the integration of the country progress. Modern technology, such as cellular communication and high-speed internet expansion accelerate business communication across the globe, and the advanced technology passed from the developed world to the other destination of the planet. The widespread acceptance of mobile phones and other mobile communication devices endorse the adoption of mobile devices in all aspects of social life. The Mobile Communication sectors have passed the enormous development stage by enhancing technological advancement and market penetration. According to the GSMA Y 2018 data, the number of unique subscribers reached 5.1 billion, and the mobile penetration rate reached 66% of the world population (GSMA Intellegence, 2019). The rapid technological development and the deregulation urged Mobile Telecom Industry to become one of the fastest-growing business sectors in the 20th century. The dissemination of the mobile services endorsed the Mobile Network Operators (MNO) to uphold the integration and expand the vertical and horizontal enlargement. (Rautenbach, Gebhardt, & Smolny, 2013)

Besides, the emergence of the high-advanced technology capabilities enables the achievement of new horizons, and the integrated high-speed data transmission burgeons the new economic growth. Meanwhile, with the exponential penetration of Data consumption the traditional services are being impacted with the proliferation of the Over the Top services (OTT), the text messaging and voice service revenue are gradually losing the erstwhile power. The revenue growth from the new subscription is becoming the hardly achievable objective, and the penetration of mobile communication simplified the availability of mobile service and caused the market stagnation and revenue decline. Even though the mobile industry has reached the substantial achievement, the growth rate is slowing in the last years, and according to the GSMA Global Mobile Trend Assumptions report, the accomplishment of 6 billion revenue will require a longer time. (GSMA, 2017)

Considering the mobile industry trend alternation, mobile operators are pursuing the new value creation models and the expansion of product range by acquiring new characteristics in the industry. The advancement of the new value-added services and digitalization of the ecosystem are conducted for overtaking the market saturation and revenue decline. The enhancement of 4G and 5G connections maintain the new revenue-generating opportunities by enabling favorable utilization of value-added service consumptions. (White.H, 2019) (Deloitte, 2019)

1.2 Research Background.

The worldwide trend in the mobile telecom industry impacted Azerbaijan Telecom Market as well. The wireless telecom has entered to Azerbaijan Telecom industry in the Y 1994, and the considerable penetration started from the beginning of the 2000s` by the expanded coverage to 99% of the residential area of the country. Previously the market share was divided between 2 MNOs: Azercell Telecom LLC and Bakcell LLC, however, the aggressive competition started with the emergence of the third operator - Azerfon

LLC, the network coverage expansion reached 100%, and market penetration reached 111%. Generally, the market share has been divided among three players, whereas, the last emerged company Naxtel LLC serves in the Nakhchivan Autonomous Republic only.

All three operators are intensively applying the different pricing strategies for customer attraction. Customer acquisition and retention are vital principles for all operators, and each operator is using different efforts to take the market share of competitors. However, the hectic competition deteriorates the market conditions as the gap between operators is being eliminated, and mobile operators are expressing the revenue decline.

Despite the aggressive competition, Azercell Telecom LLC is keeping the dominant position in Azerbaijan Mobile Telecom Industry. Today Azercell is a market leader with 42.88% market share and more than 4,500 million subscribers. Azercell was established as the first GSM operator in Azerbaijan in January 1996, and at the end of the same year, the commercial launch has realized. In 1998, as one of the rare mobile operators over the world, Azercell firstly launched prepaid system (SimSim). (Azercell LLC, 2019)

Even though Azercell has entered as a second wireless telecom operator to Azerbaijan Telecom Market, the company within short of the period became a market leader. At the beginning of 2000s` Azercell acquired almost 80% of the total market share. The network coverage reached 99.8% of the total country`s residential area and 80% of the territory of Azerbaijan (except 20% of the occupied territories). Azercell has spent more than 1 billion USD for the development of the highly superior network coverage and the deployment of the wireless telecom innovative solutions in the Azerbaijan telecom market. Azercell tries to entice the attention of the customers by covering all slice of society with various segmented offers and campaigns. Despite the development of new network capabilities enable the favorable conditions for the company, but due to the aggressive competition, sustaining the stable market share is becoming a difficult task. Compared with previous decade the market share of Azercell decreased by 10%. Simultaneously the market share reduction made a negative influence on the revenue streams. The particular reduction occurred in the voice and SMS service indicators. The voice service is used to be the main revenue source but compared to previous years voice, and SMS revenue is incrementally declining and the compound annual growth rate(CAGR) in the last four years expressed the negative outcome. The voice revenue declined by 2%, whereas SMS revenue declined by 20%.

In contrast with traditional revenue generators, Data revenue shows the positive results in all indicators the average revenue per user (ARPU) and the total revenue CAGR rate in the last four years constitute 16% and 25% increase. Simultaneously with the increase of Data revenue, the Value-Added Service (VAS) also expresses the upward trend. The Data consumption growth inculcates the positive changes in VAS usage, whereas these two streams are positively intertwined.

1.3 Problem Statement.

Some circumstances and reasons, further being discussed in this research paper, led to the weakened position and decreased market portion of Azercell Telecom on the telecommunication market. Moreover, strengthened rivalry, recent internal structural, and management changes in the company created obstacles for continuous company's development.

Hence, considering the new challenges and increased level of sophistication of the customers' needs, Azercell analyzes new revenue streams for increasing bottom-line and improving position on the market.

The **PROBLEM STATEMENT** of this Business Consultancy project refers to the decision whether Mobile Financial Services should be implemented by Azercell in order to obtain a new revenue stream for improving the financial performance, meeting steady increasing and digitalized needs of customers and enhance the market position of the company. In the case of a positive decision, the complete implementation process and financial feasibility forecast for the project has to be developed.

1.4 Research Objective and Research Questions

The aim of this research paper is to enhance the understanding of the possible influence of the MFS as the new service to be implemented by Azercell on the company's performance in order to enhance the financial results and to strengthen position on the telecom market by overcoming fierce competition on the telecommunication market.

This analysis will bring the conclusion of whether to implement MFS in Azercell at the current moment or not.

Two scenarios as a result of the research investigation are feasible:

- The possible positive answer – will lead to the obtaining of the new potential possibilities for the company to improve the financial position and market share considering the strengthening competition on the telecommunication market. Moreover, developing the banking sector creates new opportunities for creating joint products and services mutually beneficial for both sides leading to a synergistic collaboration for both Banks and telecom operators.

Some of the points that need to be addressed in case of positive decision about implementation of MFS are listed below:

- How to implement the product? (individual launch or cooperation with the Bank);
- Financial feasibility and financial analysis, MFS implications to the short-term and long-term scenarios;
- How to adapt the structure of the company? What changes should be made, if any?

- However, a negative answer can prevent the Company from excessive expenses and waste of time of the employees involved in the new project.

Moreover, this business consultancy report will seek to analyze and make a comparison with the MFS or similar services provided by competitors, which are already available to customers in Azerbaijan, if any. Meanwhile, worldwide experience will be examined thoroughly, considering developing the state of MFS in Azerbaijan.

Furthermore, potential benefits and costs arising as a result of the launching of a new service for Azercell will be discussed in the research paper. For instance, positive impact on the Company's reputation as being on the cutting edge in terms of technological development and attraction of a new group of customers based on the product's specific nature can be considered among the potential benefits for Azercell.

The following Major and Minor research questions will be addressed in this study:

Major Questions:

1. What is the current position of Azercell in Azerbaijan Telecom Industry?
2. What have the recent changes occurred in the revenue stream of Azercell?
3. What is the current situation on the Azerbaijan Financial Market?
4. Is current situation in Azerbaijan Financial Market favorable for MFS development?
5. Can Azercell consider the implementation of MFS as a new revenue stream?
6. What type of implementation (such as, cooperation with a Bank or individual launch) can be chosen for the launching MFS?

Minor Questions:

1. What is the current situation in the Mobile Telecom Industry?
2. What is worldwide experience in this field? What are the opportunities of MFS as a new revenue stream in the Mobile Operators portfolio?
3. What is the role of government in MFS development in Azerbaijan?

1.5 Research design and Research Approach

The combined research approach was applied for this particular business consultancy project – both qualitative and quantitative research techniques are implemented, using a case study research method.

Furthermore, internal data evaluations, participant observations, semi-structured and in-depth interviews and questionnaires were employed throughout the process for the purpose of the research.

Personal and telephone interviews have been conducted by using the questionnaires containing open-ended questions aimed at identification and analysis of customers' requirements and expectations in MFS field (Appendix No. 1).

On the other hand, the experts from financial field – leading banks and specialists from payment processing and online payment portals, have been also interviewed to obtain information on the current market situation and consumers' demand for MFS.

Moreover, questionnaires were distributed through the internet to estimate the awareness of potential customers and readiness for the usage of MFS. The analysis of data collected from around 214 respondents shed light on the attitude of potential customers to MFS and degree of understanding and acceptance of this service in Azerbaijan.

Questions contained in the interview forms and questionnaires related to the research topic, including financial and telecom specifics are reflected in the attached interview protocols (Appendix No.1*).* The list of respondents evolves: CEOs of online payment portals, representative of the payment processing company, experts and managers from the leading banks of Azerbaijan and professionals from Azercell.

Secondary Data was obtained from an array of sources such as, mobile industry reports, reports of World Bank and other data sources reviewed and analyzed by applying of the various academic tools.

Meanwhile, being a participant – observant, implied benefits of obtaining the primary data from the Azercell reports and as a result of formal and informal discussions with colleagues inside the organization.

Hence, semi-structured interviews with colleagues, industry experts, and questionnaires were conducted during the research process.

Furthermore, analysis of current situation including SWOT, PEST, Porter's five forces and seven pillar model of assessment of the MFS development in the country has been executed relying on the data collected based on close cooperation with colleagues and other related sources.

1.6 Scope of the Limitation

During the research process, there have been some limitations in the data collection process. There is limited information about the finance market and especially, for the Banking Sector in the State committee reports. Each bank is giving different information about market share, and online payment portals are also unwilling to share the online transaction information. There is also some data deficiency in Mobile Telecom data collection as well. Some data for Azerbaijan Mobile telecom Industry is taken from GSMA intelligence data and from the State committee reports, however, in addition to GSMA and State committee, the consolidated data service consumption share per each mobile operator and revenue share are not available. The information in State committee reports is inconsistent, whereas, in some reports, the information is available until 2017, the Y 2018 data is absent.

1.7 Thesis Outline

This BCP consists of Abstract, ten chapters, and Conclusion parts and is structured as follows:

Chapter 1 contains the introduction of telecom outlook and research background. Also, research objective, major and minor research questions, and research design are defined in this chapter, including the scope and limitations of the project.

Chapter 2 describes the Telecommunication Industry in Azerbaijan through PEST analysis.

Chapter 3 – Company Profile of Azercell is analyzed, and the company position is determined by Porter's Five forces and SWOT analysis for defining the external and internal factors affecting the position of the company

Chapter 4 is presented by Azerbaijan financial market review, an overview of market participants – banks and credit organizations, payment systems, and market authorities (FIMSA, Central Bank, and ABA).

Chapter 5 examines the types of MFS models and mobile payment technologies, MFS development around the globe and experience of other countries, meanwhile the seven pillar MFS development in Azerbaijan is also described in this part of the research.

Chapter 6 is the literature review, analyzing and reflecting main concepts of MFS, factors affecting its development and specific features of Azerbaijan. Moreover, recent trends and changes in revenue streams of telecom operators and analysis of the reasons are briefly described in this part of BCP.

Chapter 7 describes the research methodology, including research design, approach, and techniques of data collection and data analysis that are presented here.

In Chapter 8 the theoretical background of the research containing dependent and independent variables affecting the studied subject are reflected.

Chapter 9 is one of the essential parts of BCP containing Findings -financial feasibility and the evaluation of the revenue generators` trends and modification and recommendations for Azercell for the development of the new revenue streams.

Chapter 10 – implementation process is discussed in this Chapter. Two scenarios – short-term and long-term perspective vary considerably, that is reflected in the financial feasibility results.

Conclusion.

2 Azerbaijan Telecommunication Industry

2.1 Background

Azerbaijan ICT market has passed through the dynamic modification and vigorously absorbed the world trend diversifications in the shortest period. The telecommunication industry has rocketed within the last decades and became the second-largest business environment of the country after the oil industry.

The telecom sector in the country is being provided by 4 Mobile Network Operators and two fixed telephone network services. The fixed-line operators Aztelekom Production Association (APA) and Baku Telephone Communication Production Association (BITRIB) provide the country with fixed-line service. Aztelekom covers the region and rural areas except for the Nakhchivan Autonomous Republic, whereas Baktelecom

serves the fixed telephony and broadband service in Baku city. Besides, the supporting country with fixed-line Aztelekom is functioning as a provider for the long-distance and international voice and data transmission. (Asian Development Bank, 2019) (Aztelekom, 2019)

The expansion of the internet within a country integrated slowly until the elimination of the licensing of Internet Service Providing. Over 15 years the number of ISP`s has reached 40, which accelerates the competition and maintain of WiMAX (Worldwide Interoperability for Microwave Access) and other wireless technologies deployment. (United Nation, 2014)

Eventually, Azerbaijan telecommunication industry has endorsed the extensive infrastructure development by considerable government support which maintained the high-advanced technology expansion across the country. (The World Bank, 2014) The foundation of Azerbaijan`s “2020 Look into the Future” strategy emphasized the development of information and communication industry by transforming from moderate level to high-technological economy with the development of FTTH (fiber to the home), Wi-Fi and high-speed mobile network. (Azerbaijan 2020; Look into the Future)

Despite the government support and concernment of the players in the continuous enhancement, the telecom industry can be considered the most vulnerable business environment. The frank assessment of the industry by outlining the political, economic, social, and technical factors for the understanding the modification of the telecom landscape with the implication of these factors can be done through PEST analysis.

2.2 PEST Analyses

Fugure.1 PEST Analysis

Political	Regulatory Involvement	**Social**	Fixed-line penetration
	Government assistance in digitalization		Mobile communication development
	Licensing reforms		Substitution of fixed line communication by mobile
	Private sector development		Smartphone penetration
Economic	GDP Growth	**Technical**	The integration of the infrastructure
	GDP growth from ICT sector		The expansion of cellular network coverage
	Increase of the Telecom Revenue		The development of ISP
	Decrease of Inflation rate		High-speed data availability and Fixed and Mobile Broadband development

Political

Azerbaijan telecom market is under the regulation of the Ministry of Communications and High Technologies. Telecom Market has passed the immense modification and infrastructure enlargement after the adoption of the specific law on Telecommunications of the Republic of Azerbaijan in the 14 June 2005. The telecommunication law maintains the evolution of the sector by protection the local and foreign direct investment. In addition to the ratification of the peculiar law for the structuring further business progress, the strategic roadmap for the extension of ICT sector was approved in December 2016 by the president of the Azerbaijan republic. The government allocated 585 million AZN (344$ million) for the growth of the infrastructure, both state and private sector through collaboration and reinforcement of the ICT business environment. The budget assigned to the expansion of the mobile telecom and fixed and mobile broadband integration. (Dreyzina & Ibrahumov, 2017)

The strategic roadmap divided into two parts:

1. Fortifying the governance structuring:
    - Establish an independent regulatory body
    - Liberalize the telecommunication market
    - Increase mobile infrastructure investments
2. . Clarification of productivity rise and provision of the lucrative business landscape
    - Extend technology-based operations in business environment
    - Upgrade technology education with the involvement of businesses
    - Increase knowledge and skills in the ICT sector and apply ICT in the education system

Consequently, within government support and ICT sector attained the significant growth and acquired the industry penetration.

Economic

After the ratification of the new law in the Y2005, the ICT sector has contributed enormous support to the economy country.

The share of the income of communication services from the total ICT sector revenue was around 80%. Considering the previous years, in the period of Y 2005-2012, the compound growth of the telecom sector was around 17% and year on year growth rate was positive (stat.gov.az, 2018). However, starting from the year Y 2013, the income from the communication services became stable, but in the year 2015-2016 the annual growth rate went down and expressed the downward trend. The decline of the ICT income caused due to the local currency depreciation which put the short convulsion the whole country economy

The currency depreciation caused additional financial burdens on the country economy by decreasing exports and increasing import prices. ICT sector as any business area impacted by currency volatility mostly due to the high capital investments to telecom equipment purchased abroad and experienced the economic recession.

Meanwhile, after Y2015 local currency depreciation in the Y 2016, the exchange rate volatility leveled off and hovered above 1.7 AZN per USD line. The increasing oil prices let the State Oil Funds make large money transfers to the Central Bank account within Y2017, which performed to achieve the exchange rate stability. (Center of Economic and Social Development, 2018)

Consequently, the stable exchange rate positively affected all the business area and particularly the ICT sector. According to the information of the statistical committee of the Republic of Azerbaijan and the information from the Statista portal, the economic indicators of the country in the last two years expressed the positive changes by comparing with corresponding Y 2017. Besides, based on Asian Development Bank January 2019 report, the total generated income from the ICT sector reached 1,391 million and the ICT GDP set about 2.2% of the total none-oil sector GDP. (Asian Development Bank, 2019) In comparison with 2018, the overall economic metrics show improvements, the overall GDP and GDP from the ICT sector has increased, and inflation rate slightly declined. (stat.gov.az, 2018), (statista, 2019). (statista.com, 2019)

Table.1 Economic Metrics

Economic Metrics	(Jan-May) 18/19	(Jan-May) 18/17
GDP	102,2	101,1
GDP per capita	101,3	100,2
GDP from ICT sector	114,9	106,3
Average monthly nominal salary	107,9	103,5
Unemployment rate	5.2%	5.0%
Inflation rate	2.3%	2.5%

In concordance with the German Trade Invest the evaluation of the Azerbaijan Market Analysis in the Y 2019, the ICT sector got over the industrial stagnation and will show the progress in the nearest future. The growth rate of the telecom and IT sector is expected 12% average annual growth until 2022. (Market Analysis, Azerbaijan 2019)

Social.

The social life of the Azerbaijan population has been modified with the integration and enhancement of the telecom sector players. Comparing with the previous decades, the emergence of wireless telecommunication and internet has changed the communications habits of the population.

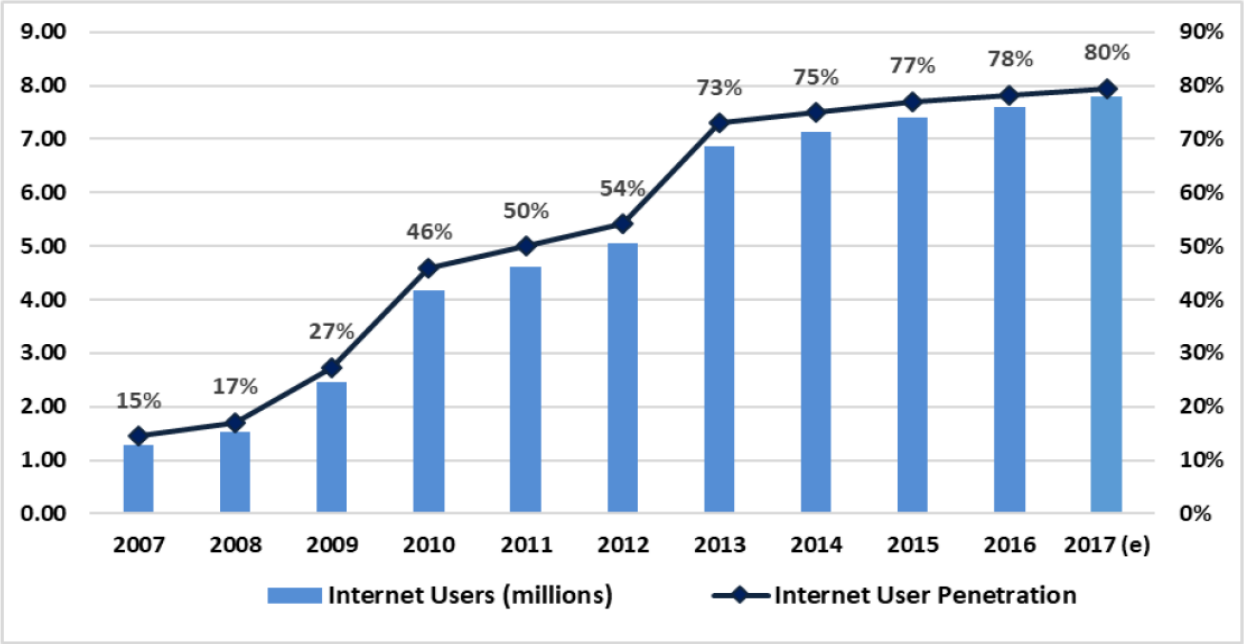
According to the statistics of the State Statistical Committee of the Azerbaijan Republic, the public switched telecommunication networks the considerable expansion started from Y 2005, and within the particular period, the penetration level of the fixed-line per 100 inhabitants reached to 16 on average. (stat.gov.az, 2018) Furthermore, the successful launch of the national “100 Phones for 100 Households” project by MCHT in Y 2008 boosted the fixed-line penetration across the residential areas of the country. (International Communication Union) However, the annual growth rate of fixed-line started gradually express the adverse outcomes and based on Azerbaijan Telecom, mobile and broadband statistics and analysis report by A Buddecom the fixed-line penetration achieved the highest indicator in Y2015 by reaching 19%, but since then the negative turning point occurred and penetration level fallen to 17 % in Y2017. The negative trend

in the position of the fixed-line caused by the rise of wireless communication penetration and in consequence of the mobile network availability across the country diminishes the importance of fixed-line usage. The substitution of the PSTN within mobile usage became clear from a comparison of the average rate of 100 inhabitants for fixed and mobile line communications. (stat.gov.az, 2018). The growth of wireless telecom communications impacted the fixed-line position in the communication arena and the PSTN usage substituted by the mobile one. The development in the wireless telecommunication network expansion and the achievement of the new advanced technological tools enhanced the mobile telecommunication position in the telecom market. The deployment of high-speed network intelligence outperformed the mobile market proliferation. Besides the substitution of the featured phone by smartphones boosted the addiction of users to mobile communication and the internet. Based on GSMA data the features phones lose the market share, and the smartphone penetration compound annual growth rate is 37 % in the last three years. (GSMA, Intellegence, 2018)

Technical.

The substantial integration of the ICT sector occurred after the emergence of mobile and internet services in Azerbaijan telecommunication industry. The internet emerged in the ICT market of Azerbaijan in Y1996, but the substantial expansion of the fixed- broadband was achieved in Y 2005 after the development of the national telecom infrastructure through the adoption the sector-specific policies. The government sustained the extension of the broadband through the National Broadband Development (FTTH) Plan. In the period 2014-2016 the government established fiber optic cables across the whole country, including underserved rural regions. Besides, the elimination of the licensing for the internet services providers refined favorable entrance conditions. The number of Internet Service Providers (ISP) reached 40, and the rise of competition positively influenced the service availability and the affordable pricing strategy. Together with the expansion of fixed broadband, mobile broadband experienced pivotal changes starting from Y2011. The deployment of the new advanced technologies and extension of the 3rd and 4th generation mobile network across the residential areas of the country intensified the broadband penetration. The access to the fixed broadband reached 71% in 2014 (stat.gov.az, 2018) and after the emergence of 4G to the mobile network operators` portfolio in Y 2012, the total number of mobile internet user increased around 90%. Overall, according to the Buddecomm Y 2017 and the Asia bank Mobile and Broadband Y2018 report the number of internet users reached to 8 million from total 10 million and the penetration rate was around 80% through the whole country population. (internetworldstats.com, 2019), (Asian Development Bank, 2019).

Figure.2 Internet Users



In addition to the internal development, In Y 2009 Azerbaijan has launched a Trans-Eurasian Information Super highway (TASIM) after the acceptance of the resolution by United Nation Assembly. Azerbaijan leads the project within co-sponsorship of 30 states. In the first stage, all participating countries worked on the integration of the high-speed internet and establishment of the transit infrastructure for connection of the West and East. In the second stage, it is projected to use established transit infrastructure for spreading connection with Central Asia countries by providing high-speed internet. Due to the requirement of TASIM, the national infrastructure should be updated by upgrading the existing lines and establishing the new fiber-optic line. (Trans-Eurasian Information Super Highway, 2017)

Ultimately the integration of the broadband is being supported by sustainable government plans and private sector deep intervention. As a positive outcome of all these operations Azerbaijan was ranked ICT development index 65 out of the 175 countries by The International Telecommunication Union (ITU) and this is the highest result among the South Caucasus Republics. (ICT Development Index , 2017)

The evaluation of the industry from the different perspective approves that political and economic conditions are lucrative for the integration, and government put enormous efforts for the development of the industry and support readiness for further progress. Considering supportive government intervention and the development of knowledge-based technology together with fixed and mobile broadband penetration, the influence of the industry to the country economy will continue within an upward trend, and the existence of advanced technologies can maintain the integration of the total business environment.

2.3. Mobile Network Operator Market

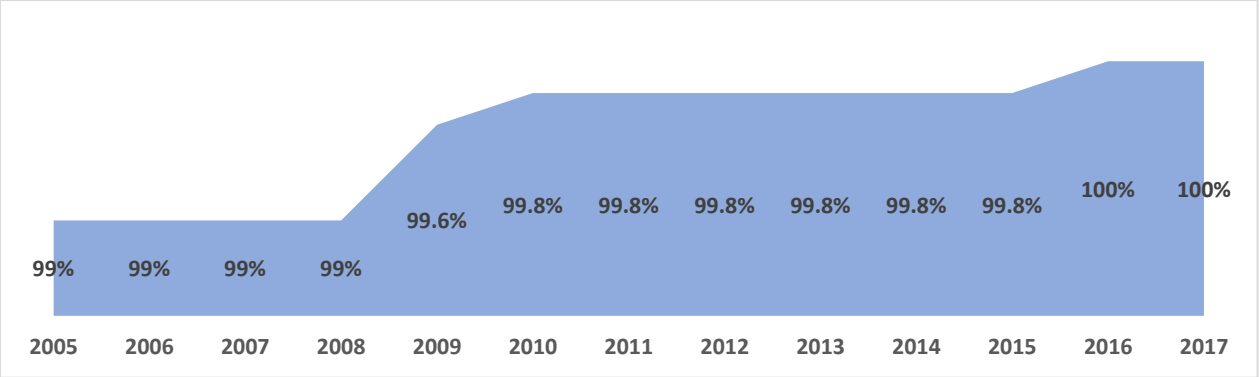
The mobile telecom industry of Azerbaijan is shared among four players: Azercell LLC, Bakcell LLC, Azerfon LLC and the last emerged mobile operator Naxtel LLC, which serves only in the area of Nakhichevan Autonomous Republic.

The Mobile Telecom market of Azerbaijan has passed through an intense development and maintained the fast-growing business segment in the local telecommunication industry. The cellular communication entered the Azerbaijan telecommunication market in 1994. However, the coverage expansion the development of the whole infrastructure occurred later after the development of the macroeconomic conditions and political stability in the country. (Economic Reforms, 2018)

In the second stage of economic reforms, after Y 1996 the adoption of the state programs for the integration of the business environment in the country and the acceptance of sustainable industry-related law encouraged the mobile network operators` integration. The market liberalization and the emergence of the second MNO in the telecom landscape in Y 1996 reinforced the advancement of the mobile telecom infrastructure through the deployment of the new hardware systems and building the Base stations across the residential areas of the country. The yearly based total investment to the development of the telecommunication was around 214 million AZN on average for the period 2005-2017, and the considerable portion of this amount was allocated for the development of the mobile network infrastructure. (Accelerating growth of high-speed internet services in Azerbaijan, 2014), (The State Statistical Comittee of the Republic of Azerbaijan, 2018)

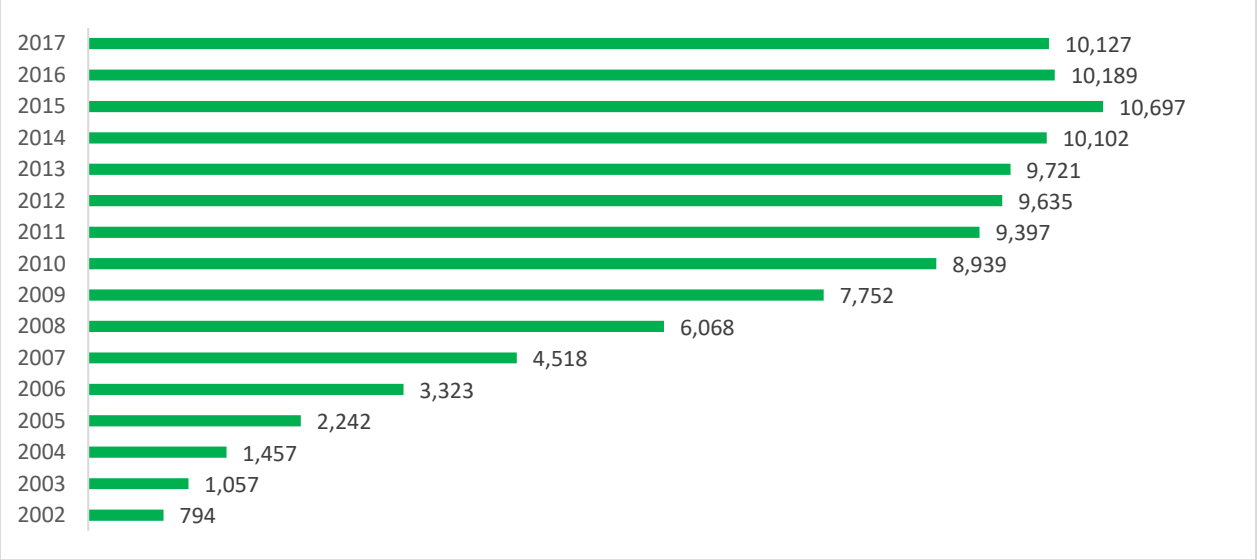
The expansion of the cellular network through the whole territory of Azerbaijan was very challenging as Azerbaijan has diversified geographical landscape, including the high mountains, wetlands, and desserts areas. Mobile operators had made an enormous investment by allocating the substantial amount for the progress of the physical and human capital through implementing new technologies and development of the knowledgeable working forces. Starting from Y 1996 the mobile coverage was dispersed over the country, and the aggressive expansion happened in the Y 2009 with the entrance of the 3rd operator and the complete coverage of the residential area completed in the Y 2016 by reaching the full 100% coverage. The hectic competition among three players intensified the modernization and growth of the industry and constituted the availability of high-quality services. (stat.gov.az, 2018), (Accelerating Growth of Hgh-Speed Internet Services in Azerbaijan, 2014)

Figure.3 Percentage of the population living in the area covered by cellular network.



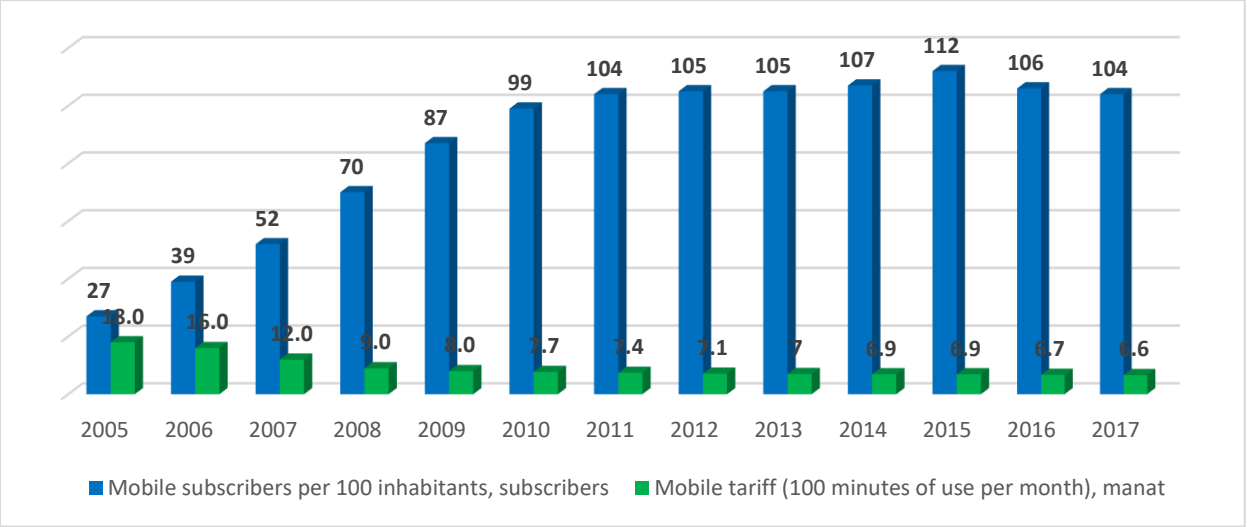
The dispersion of the mobile coverage to the rural areas of the country fortified the mobile operators' position, and the number of subscribers started to grow up gradually and the substantial share of year on year trend happened from 2005 to 2007 when the annual average growth for three years was 46%. (stat.gov.az, 2018)

Figure.4The number of total Mobile Network subscribers in thousands



Overall, the mobile communication market was lucrative and had an opportunity for the further development like the implementation of the mobile broadband, the realization of the different pricing strategy and dispersion the service to all market segments made the mobile communication the commodity service, and the usage of the service increased proportionally with the price reduction.

Figure.5 Mobile subscriber and Mobile tariff changes



In the meantime, the modernization and extension of the mobile services positively influenced the financial indicators of the mobile operators who made a significant contribution to the country economy. The total income from mobile communication for Y 2017 made 857 million AZN, which contained 62% of the total telecommunication revenue. Since the Year 2000, the mobile telephone communication income has made half of the total communication revenue and even reached 74% share and after that fluctuated around the percentage of 62-70%. However, starting from Y 2015, the revenue of mobile communication expressed the small decline. The economic situation of the country in Y 2015, as any industry segment has impacted the mobile communication sector as well. (stat.gov.az, 2018)

Table.2 The share of mobile communication income from total communication services.

Period	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Communication services	45	84	118	111	142	160	186	232	318	443	546
Mobile services	0.008	24	41	46	71	87	107	141	208	296	376
Share %	0%	28%	35%	41%	50%	54%	57%	61%	65%	67%	69%
Period	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Communication services	696	904	969	1,088	1,139	1,283	1,342	1,389	1,379	1,325	1,391
Mobile services	511	667	710	785	784	873	908	915	873	825	857
Share %	73%	74%	73%	72%	69%	68%	68%	66%	63%	62%	62%

Nevertheless, in comparison with other developing markets, the market penetration level in Azerbaijan is high, while all market members make efforts to earn a strategically crucial competitive advantage. (Mankiw & Taylor, 2014)

Meanwhile, the launch of Mobile Number Portability (MNP) in the Y2014 accelerated the rivalry among three players on the telecom market and provided increased simplicity for the consumers in switching from one mobile operator to the another. Subscribers were able to “port in” and “port-out” to various mobile operators without changing the phone number and avoiding the lengthy procedures. (Kaur & Sambyal,

2016). However, obstacles eliminated for consumers were transformed into difficulties for mobile operators resulted in deteriorated market competition for MNO. Moreover, based on MCHT requirements, all technical preparations and connected expenses had to be finalized by the telecom players beforehand.

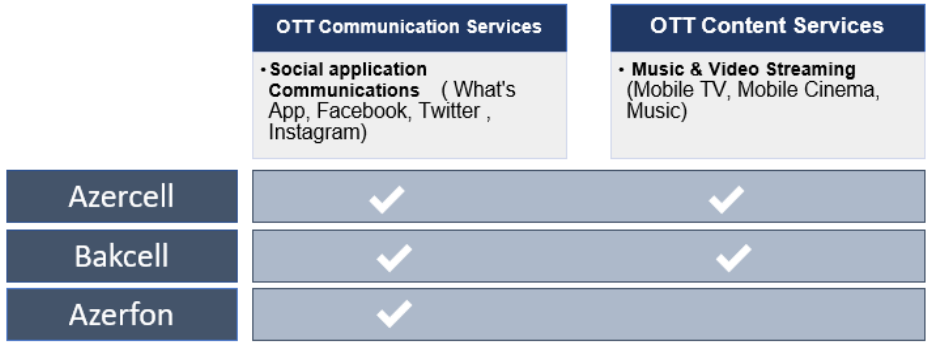
The mobile operators faced with the hectic rivalry and were forced to search for updated value proposition for distinguishing from the competitors. (Telecoms, Media& Internet Law and Regulations, 2017)

Hectic rivalry forces operators to compete dynamically with each other to obtain a larger market share by offering diminished prices. However, the aggressive price-cutting strategy will lead to a reduced gross margin. So, the telecommunication market can be described as a “red ocean” for market participants. (Kim & Mauborgne, 2005)

Presently, mobile operators use all efforts to differentiate the product portfolio by launching different services and maintaining the high-speed internet to the market. The establishment of the 3G in Y 2009 and 4G in Y 2015 lead the provision of affordable services. (Asian Development Bank, 2019)

The emergence of the internet in the product ranges strongly supports mobile operators by creating an opportunity for the expansion of mobile broadband packages. The mobile broadband market position has proliferated over the past five years with the assistance of ascending of 4G infrastructure. Mobile operators extend their product ranges by applying the new data-centric products. Now all three operators are providing different lines of data packages. Besides, all three operators in addition to the traditional services arrange the bunch of different services as complementary to the primary services (BEREC, 2016).

Figure.6 OTT Communications



Mobile operators add Over the Top (OTT) communication and content services to their product portfolio. All three operators launched different packages by including limited or limitless communications through social communication application. Azercell and Bakcell LLC advanced their services by adding music and video streaming services. Additionally, all companies are trying to intensify their competitive advantages by offering new opportunities to their customers by adding mobile banking and online payment services. Azercell was a pioneer in the establishment of mobile payment systems via mobile devices and has launched Mobilbank service in Y 2009. (The Financial, 2009) However, now all three operators are actively

cooperating with online payment portals and subscribers can make online payments for bills and utility services through the website and mobile application of mobile operators. (AHK Azerbaijan, 2019)

Nevertheless, based on GSMA 2019 Data Azerbaijan mobile market industry penetration level has reached almost 111% in the year 2019 (GSMA Intelligence Data, 2019). It proves the mobile network market is becoming saturated, and some percent of subscribers are using sim cards from several mobile network operators at the same time. This assumption has been approved by Brand Equity Research as well. Some parts of respondents admitted being a subscriber of different mobile operators. The reason was explained as the coverage availability and price difference by operators. However, for the getting whole outlook, a brief overview of each mobile operator has been evaluated.

2.4. Bakcell LLC

Bakcell LLC was founded as a joint venture between the Azerbaijani Ministry of Communications and Israeli GTIB in early 1994. As the first cell phone operator Bakcell LLC launched cellular communication services meeting GSM international standards in Azerbaijan.

After the complete privatization of Bakcell LLC in 2004, due to the revised market strategy, market share of Bakcell LLC started to increase. Bakcell LLC fulfilled substantial investments in the enhancement of network and software development in Y 2007. For instance, 8,755 million AZN amount was spent on billing and CRM base. Moreover, around 22 million spendings were made for network expansion assisted by Nokia Siemens.

According to the CEO of Bakcell LLC, the total investment of 30,755 million AZN was paid back with the increase of both subscribers' quantity for 0,6 million and market share for 11% reaching 34% consequently (Bakcell, 2018).

Moreover, in Y2013 Bakcell LLC succeeded to increase the number of subscribers to 3 million, a 1 million growth in comparison with Y 2007. Innovations and improvements adopted by the company improved opportunities and amplified market penetration. Nowadays, networking coverage of Bakcell LLC is 93% of Azerbaijan territories with the number of subscribers comprising 3,1 million.

The product range is also expanding, three new tariff plans have been implemented: CIN, Class pre-paid, and post-additionally, Bakcell LLC tries to attain the market share by the low-cost pricing strategy. In order to sustain competitiveness, Bakcell LLC decrease pricing, and as contra attack, Azercell urged to shrink the gross margin as well. Nevertheless, the price range applied by all three operators is very close, according to the Brand Equity Research Analysis which was done by International Research group in April 2019 Bakcell has been considered low price setter according to the compatibility analysis.

Meantime, Bakcell LLC also intends to sustain competitiveness by extending product ranges and added the OTT content services to the product portfolio. Such as video and music streaming, game portal, and online payment services.

Video streaming became possible due to the collaboration with Megogo company, Bakcell LLC users can enjoy the licensed movies, cartoons, and other videos.

Music streaming – Bakcell LLC launched My Music Cloud service. This service provides the possibility for sharing and enjoying music across handsets without any charge.
Game portal – java games and other entertaining applications, news, etc. are available from the wap portal.
Online payment services – the opportunity of balance increase via the website of Bakcell LLC and/or partners-banks.
"*Ulduzum*" loyalty program is also available for the consumers, and they can enjoy regular discounts and marketing campaigns of the Bakcell LLC partners (shops, restaurants, etc.).
One of the recent partners of Bakcell LLC became Premium Bank aiming at expanding the cooperation activities, including new projects between the companies. (Bakcell LLC, 2019)
According to the interview of the CEO of Bakcell LLC, in 2018, huge investments were fulfilled by the Company, and Bakcell LLC has experienced a 5% growth of revenue in 2018. The continuing growth is expected for this year due to the administrative measures triggering improvement of living standards of the population and for 2019-2020. (AHK Azerbaijan, 2019)

2.5. Azerfon LLC (Nar Mobile)

Azerfon was founded in Y2005, and it was the pioneer in terms of the 4G network provided. The market share of Nar Mobile varied around 20-21% starting from 2008. Considering the disadvantage of Nar being a "last comer" and the fact that the market was already divided between the two telecom providers earning a market share was quite challenging for the company. However, according to the interview of the Company's CEO, Nar succeeded in entering the market and competing with rivals. Moreover, network coverage has been extended due to the increased number of base stations. Price killing aggressive strategy has been deployed by Nar to acquire a market share. Nar provided extremely cheap offers and was focused on lower-income target group in comparison with Azercell and Bakcell LLC. Besides, 4G coverage was provided in the regions as well at affordable prices. (The Business Year, 2014). In addition, the strategic cooperation agreement was concluded with Vodafone to boost brand awareness and to take advantage of the Vodafone's experience and technological knowledge. (Vodafone Group Services Limited, 2009)

Despite that Nar was the first mobile provider, offering 4G for the customers in Azerbaijan, 62% market share in 4G was hardly maintained by the operator. Currently, Nar has 2.3 million people customers and mobile coverage of 80% of the total area of the country (nar.az, 2019).

2.6. Naxtel LLC

Naxtel LLC was founded in 2016 based on the agreement between the Ministry of Communications and New Technologies of Nakhichevan Autonomous Republic (MCNT). Services of Naxtel LLC are provided on the territory of Nakhichevan Autonomous Republic (NAR) only.

NAR is the part of Azerbaijan Republic and is located in the south-west with the 5500 square meters and a population of 410 000. Current market share of Naxtel LLC is 9% of the overall market and increased more than twofold in comparison with 2016. (GSMA Intelligence Data, 2019)

The coverage territory of Naxtel LLC services is expanding, and the operator becomes a rival for other telecom providers in this region. According to the Company's plans, the geography of services can extend to other regions of Azerbaijan. (Naxtel, 2018)

3.Azercell Telecom LLC

3.1 About the company

Azercell was established in 1996 and launched its performance as the first GSM operator in Azerbaijan. At that time, Bakcell LLC was already presented on the market, providing cellular communication. However, Azercell was the first telecom player implementing GSM standards in Azerbaijan. The shareholders of Azercell were the Ministry of the Communications and High Technologies (MCHT) of the Azerbaijan Republic and Turkcell, Telecom Turkish Company.

In 2008, MCHT of the Azerbaijan Republic had sold 35.7% share to the Azertel, (Azercell Privatization, 2012) a company which was established in Turkey and majority of shares belongs to Fintur Holdings B.V, Swedish and Finnish Company which was established by Turkcell and TeliaSonera. (Telia Company, 2018). Moreover, Fintur Holding expanded to Kazakhstan, Georgia, Moldova, Russia, Tajikistan, and Uzbekistan and Nepal by acquiring local telecom operators or large shares in the companies.

By acquiring the remaining shares Azertel " Azertel Telekomünikasyon ve Yatırım Dış Ticaret A.Ş," became a sole owner of Azercell Telecom Limited Liability.

Meanwhile, in Y 2018 Fintur Holding decided to sell 51.3 shares of Azertel, the unique owner of Azercell to the Azintelecom company owned by the Azerbaijan Republic. (Teliacompany, 2018), (Azintelecom, 2018)

Azercell gained an array of advantages during the period of being part of the TeliaSonera group. Moreover, it favored the synergetic interrelations between sister companies. The leading position of Azercell on the market was strengthened by the support and experience of the Swedish company. The technological advantage and innovative services were adopted by Azercell due to the expertise and vast knowledge of Nordic Company.

Nevertheless, change in ownership influenced neither the strategy of the company, nor the corporate management. Meanwhile, the company's performance is determined by the local market realities, and all resources are deployed in order to overcome challenges. After the acquisition by Azintelecom, Azercell is being supported in developing the correct direction of performance and is aimed at becoming the new

generation telecom provider in Azerbaijan. Azercell has fulfilled the rebranding recently, in May 2019. (Azercell Rebranding, 2019)

Azercell, being the market leader of the Azerbaijan telecom industry, is launching a new era and recently the updated brand identity of the Company has been declared to the public. Company is planning to realize a digitally based strategic development to coincide with the innovative worldwide trends. According to the CEO of Azercell, telecom industry identifies modern life and is the most dynamic business type, demanding the ability to adapt and change abruptly.

Moreover, according to the statement of the company management, the core attribute of the new strategy is digitalization focused on customers' expectations. Digital transformation will amplify the emotional bonds of Azercell with consumers. Furthermore, being a customer-oriented and reliable telecom provider determines the most vital intention of Azercell.

Azercell is offering the most cutting-edge solutions to the customers, not forgetting about the data protection, is aimed at exceeding consumers' expectations in provided services. (Azercell - Press Releases, 2019)

3.2 Position on the Market.

Azercell` s emergence in the Azerbaijan wireless market happened after two years of the commencement of the mobile communication launch in Azerbaijan. Even though Azercell was a second operator in the market, the company used immense efforts for establishment of the mobile coverage across the country and building technical infrastructure. The substantial financial investment was allocated for the construction of the Base stations and implementing GSM service in Azerbaijan. As a consequence of these intentions within a short period, Azercell became a market leader. According to the data, which was taken from GSM intelligence from Y 2001 since Y2009, Azercell was the complete market leader, and the more than half share of the market belonged to Azercell. The most lucrative period for Azercell was the 2001-2006 period when Azercell was almost the unique player in the market by acquiring around 80% of the market share. However, from Y 2007 after Bakcell LLC` s endeavors for reinforcing the market position through expansion and advancement of the coverage by huge investments, the market share distribution has slightly changed in favor of Bakcell LLC (Bakcell LLC, 2019)

Moreover, the emergence of the 3rd player in the market deteriorated the aggressive competition among players and as a market leader, the most impact was received by Azercell. Starting from Y 2010 on yearly based on the market share of Azercell declined almost 10% and decreased from 54% to 40%. However, despite all endeavors of competitors, Azercell is keeping the leading position and according to GSM data Azercell market share in leveled off in around 43% in the last three years. (GSMA Intelligence Data, 2019).

Figure.7 Mobile Operators Share change from Y 2001

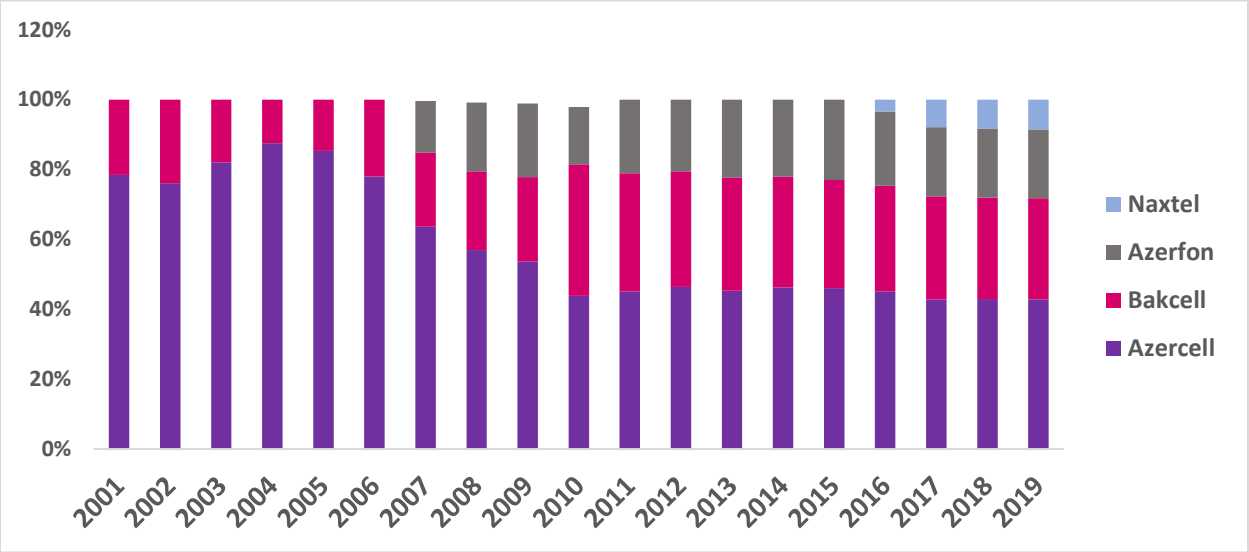
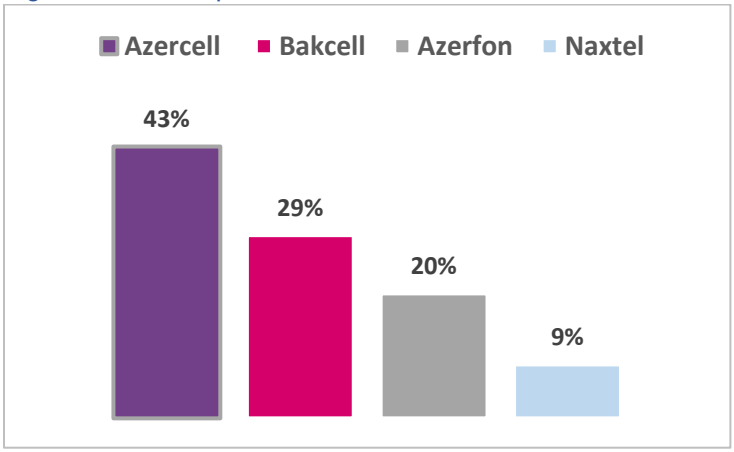
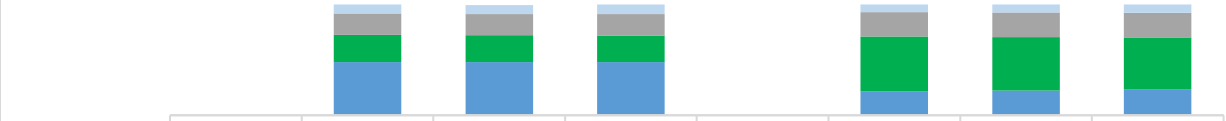


Figure.8 Mobile Operators Share in Y 2019



Moreover, for defining the real position of Azercell in the Azerbaijan Mobile Market Industry, the various detailed industry assessment tools were evaluated. According to the obtained information, Azercell holds the leading position in the Consumers' market, while Bakcell LLC offering special B2B packages, is a market leader in the enterprises market segment. Nevertheless, Azercell pursues regular activities to offer affordable packs for B2B consumers. (GSMA Intelligence Data, 2019)

Figure.9 Consumer and Enterprise Market Share

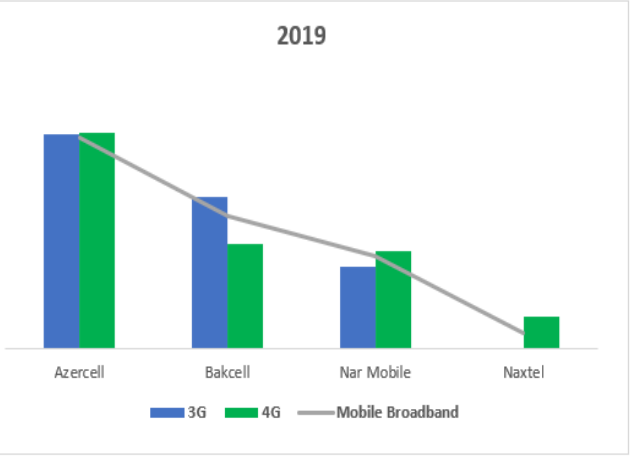


	Consumer market	2017	2018	2019	Enterprise market	2017	2018	2019
Naxtel		8%	8%	9%		7%	7%	8%
Azerfon		19%	19%	19%		22%	22%	22%
Bakcell		25%	24%	24%		50%	48%	47%
Azercell		48%	48%	48%		21%	22%	23%

Eventually, due to the worldwide voice and data substitutions trend apart from having affordable prices, the expansion of 3G and 4G network coverage and Mobile Broadband capabilities are the key factors in today`s mobile telecom market. The outstanding quality of these services creates a competitive advantage for any telecom provider and sustains the horizontal expansion and market sustainability. Generally, 3G and 4G network coverage and Mobile broadband penetration indicators are strengthening in Azerbaijan and Azercell is keeping the leading position in the particular metrics. Based on the annual growth trend, the mobile broadband coverage of Azercell expresses the upward trend.

Figure.10 Mobile Broadband Share

2017	3G	4G	Mobile Broadband
Azercell	42%	52%	44%
Bakcell	34%	25%	32%
Azerfon	24%	19%	23%
Naxtel	0%	4%	1%
2018	**3G**	**4G**	**Mobile Broadband**
Azercell	45%	47%	46%
Bakcell	34%	23%	30%
Azerfon	21%	22%	22%
Naxtel	0%	7%	2%
2019	**3G**	**4G**	**Mobile Broadband**
Azercell	48%	48%	47%
Bakcell	34%	23%	29%
Azerfon	18%	22%	20%
Naxtel	0%	7%	4%



The aggressive competition occurred between Bakcell LLC and Azerfon, as both networks tried to apply a price-cutting strategy. According to the results of “Brand Equity Research”, which was done by International Research group in April 2019, Bakcell LLC was considered as a company with affordable low prices. While Azercell was ranked as high-quality coverage network operator and Azercell ranked with the highest Net promoter scores (NPS) among four mobile network operators. (Satmetrix, 2019)

Today Azercell covers 99,8% of the country’s population and 80% of the territory of Azerbaijan (except for 20% of the occupied territories). (Azercell.com.az, 2019)

3.3 Azercell products scope

In the environment of fierce competition in the telecom market, Azercell succeeded to maintain the leading position by expanding the services and products' range offered to individual customers and businesses. The prepaid packages SimSim were provided to consumers in 1998 by Azercell for the first time on the market for obtaining the lowest market segment, economically bottom of pyramid subscribers. (Hollenson, 2014) An array of various prepaid and postpaid packages, daily and monthly data packs are offered by Azercell currently.

Azercell also launched different campaigns, such as Voice packages, Bonus Programs, and Cashback offer with Samsung devices. Moreover, Azercell integrated a new pricing strategy, and plenty of offers were presented for consumers' attention. The strategy of diminished prices and provision of discounted campaigns, as well as free of charge services, contribute to the competitive strength of Azercell towards rivalry. Currently, Azercell is focusing on maintaining a market position through customer acquisition and retention management. Azercell was the 1st mobile operator in Azerbaijan, which implemented a Customer Retention Management system (CRM). The CRM system is being implemented by the telecom operators for assessing and determining customers' demand, their preferences and satisfying their needs accordingly (Zablah, Bellenger, Straub, & Johnston, 2012)

Considering the upward tendency in data usage, Azercell realizes all the efforts aiming at facilitating data usage with various packs of GBs, meanwhile including SMS services and voice as add-on services. One of the Azercell' s products, GencOl, was developed for consumers belonging to the young generation is focused on data consumption through different campaigns. (gencol.az, 2019). GencOl customers can take advantages of the discounted prices in the most different places and get affordable discounts in education programs, cinemas, restaurants and in other different places. Besides of all these actions, Azercell is also trying to implement global mobile trends in the Azerbaijan market by using extensive experience. Azercell included OTT communication applications to their product range. The new packages, together with traditional mobile services, provide subscribers with the usage of What's App, Facebook, Telegram, Viber, YouTube, and Instagram usage. Customers pay fixed costs and get free of charge usage.

Also, there are plenty of Value-Added Services that create additional benefits for customers.

- Payment and Balance

The processes of making payments and checking balance are simplified by MobilBank, money transfer, and online payment services. Mobilbank service simplifies the payment for mobile number bills, internet providers, and utility services

- Call Management

Calls can be forwarded, banned and conference calls can be created by using the Call management service.

- 0 Balance Option

In the case of 0 balance, consumers have opportunities of taking credit or redirecting call expenses to the receiving side upon his/her approval.

- Azercell Plus

Customers can read books, enjoy entertainment, music, mobile cinema, mobile television by using this value-added service.

Consumers can watch plenty of movies from different genres in their smartphones by using mobile cinema service. Besides, Azercell customers now can watch 150+ or 200+ TV channels by connecting Mobile TV service and downloading the application to their smartphones.

With the mobile data growth, 4G and LTE services become more widespread, and mobile broadband penetration as the pivotal factor influences the success of the company, Azercell motivates the customers by offering various packages: both fixed and various devices, such as Data packs, 3G and 4G MiFi and 3G USB. Mentioned devices and modems provide opportunities for using internet services everywhere at affordable prices.

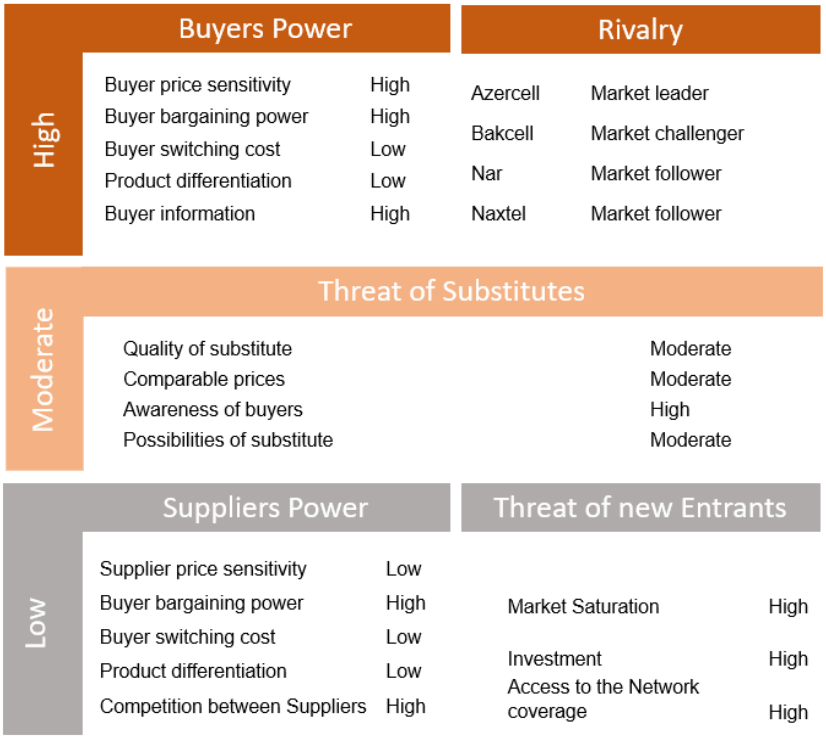
Moreover, the new marketing strategy of Azercell is to sustain the horizontal expansion and bring digitalized services to the Azerbaijan market. The new logo of Azercell is “Create your digital world”. Azercell is planning to update the current services by adding new features and modernize the services and customer communication in the new digitalized way.

Along with the realization of the new strategy, the company position should be assessed from different perspectives by considering the market position and interactions with competitors.

Moreover, Porter’s five forces and SWOT analytical tools have been implemented for better analysis of the Azercell’ s position on the telecom market and estimation of the competitive environment to overcome the challenges and be prepared for the rivalry.

3.4. Porter’s five forces.

Figure.11 Porter`s Five Forces



Rivalry-High

Azerbaijan Telecom market penetration constitutes 111% and competition on the marketplace is quite hectic. Despite that Azercell holds a leading position, other players possess close shares and distinguishing from rivals is hard to achieve. For gaining a competitive advantage all market participants fulfill the expansion of products' range and services by applying competitive advanced strategy.

Buyers Power-High

Telecommunication services have transformed into commodities, and mobile operators lost the bargaining power, and recently emerged MNP simplified the switching to another mobile operator. Services and products offered by all three telecommunication companies are similar, and peculiarities are almost diminished. However, Azercell pursues the strategy of differentiation by proposing various packages based on different prices to cover the whole customer audience, the information on products and services provided by telecom operators is easily accessible by the consumers.

Suppliers power-Low

The Sim card producers, Interconnect providers, Handset resellers, and many others are Azercell suppliers. The suppliers' power is insignificant because the range of services and prices are similar so that Azercell can switch to other providers without any difficulties.

Threat of New Entry-Low

The threat of new entry is unlikely to happen, considering the high market penetration. Moreover, the capital investment and tremendous costs of the network coverage establishment and software and hardware systems development should also be considered by the new player. Hence, return on investment (ROI) is not achievable, and losses instead of profits are foreseen for the initial period, while, the new entry will require the enormous capital investment with a long period of ROI.

Threat of Substitutes-Moderate

The threat of mobile communication can be considered OTT communication services. However, Azercell mitigated the influence of OTT communication services through the cooperation. Azercell has recently started the cooperation with OTT service providers and included the communications though social applications to its product portfolio. Now Azercell subscribers can use OTT communication tools inside their Azercell packages as complementary to traditional mobile services. Besides the usage of OTT service communication, subscribers do not pay additional fees.

3.5.SWOT- Analysis

Figure.12 SWOT Analysis

Internal	**Strength**	**Weakness**
	Market leader	Stable Market Share
	Brand awareness	Absence of the Customer Loyalty Program
	New Marketing Strategy	Low share in the Enterprise Market
	Wide range of Products	Decline of Gross Margin
	Opportunity	**Threat**
External	Expanded Network Coverage	Market Saturation
	Consumer demand for digitalized services	Mobile services became commodity
	Smartphone Penetration	Mobile Number Portability
	Mobile Broadband share	Competitors price cutting strategy

Strength

Azercell is a market leader with a steady brand position. By using various advertising types, Azercell succeeded to create strong brand recognition among the potential consumers. Recently Azercell has updated its brand identity, and within a modification of a new brand, the company has defined a new marketing strategy for further integration. Currently, Azercell is trying to become the leader in the digitalization of mobile communication services and is aimed at the overcoming obstacles of creating a digitalized environment for consumers. (Azercell - Press Releases, 2019)

Weakness

Market share of Azercell is smaller in comparison with preceding years due to hectic rivalry on the market. Despite that the market share is stable in the last three years, the absence of the growth creates anxiety for the company for further perspectives. Besides, Azercell still falls behind in the enterprise market. Another retreating part of Azercell from competitors is the absence of loyalty programs for customers. However, GencOl program of Azercell is envisaged for segmented subscribers, while extra non-GSM services are also available. Nevertheless, the general loyalty program needs to be developed additionally. Azercell is also forced to reduce prices because of competitors' behavior, to maintain the lead on the marketplace that leads to the diminishing gross margin consequently.

Opportunity

The mobile network coverage expanded across the country and Azercell covers 99,8% of the residential area of the country (Azercell LLC, 2019). Considering that smartphone penetration is increasing gradually, and in the last year, the growth rate was 28%, the extension of high-speed broadband is becoming the critical requirement of the present mobile communications. Compared with competitors Azercell has the highest mobile broadband share within the country, and Long-Term Evolution (LTE) coverage is being expanded to the whole territory. (GSMA Intelligence Data, 2019)

Threat

The current situation on the market and extremely low-cost strategy of competitors undermine the leadership of Azercell. Moreover, MNP also accelerates and strengthens the rivalry leading to market saturation. Meanwhile, mobile communication is becoming a commodity, and customer loyalty is becoming fragile. Even though the low-cost price is not becoming the critical factor for customer retentions and contemporary customers require more sophisticated and digitalized services through mobile devices.

Consequently, through the evaluation of two assessment tools, it became clear that Azerbaijan Mobile Industry market is saturated, and the competition is getting very aggressive among players. In order to hold the leading position, Azercell must consider new opportunities for creating a value proposition for customers and has to look beyond the traditional background through enlarging horizons. Considering the extensive and effective mobile broadband coverage, Azercell must grow horizontally by bringing new services to

Azerbaijan mobile market via analyzing the global GSM market innovations. Besides, Azercell has to consider collaborative cooperation with other business industries for reinforcing customer retention and competitive advantage through win-win partnership strategy.

4. Financial Market in Azerbaijan

4.1 Background

Dynamic development of Azerbaijan and investment attractiveness of the country are directly related to the emergence and performance of an efficient, stable, and flexible banking system. Creation of such a system was declared as one of the main goals of market reforms going on since the mid-1990s.

Nowadays, Banks dominate on the Azerbaijan financial field in comparison with the other financial institutions. For instance, 95% of the total assets of the market belong to the banks.

The financial system in Azerbaijan is determined by the policy conducted by the government and arrangements in respect of lending and borrowing funds, including the transfer of assets. The banking system, financial institutions, such as insurance companies etc., pension system, financial markets, and payment systems, constitute the financial system of Azerbaijan. (Finance System in Azerbaijan, 2019)

Oil profits determined many years of growth in Azerbaijan until 2015 when the fall in oil prices led to the increased inflation rates and negative impact on the financial sector (Partnership for Environment and Growth, 2018)

National currency of Azerbaijan, Manat, experienced two major and sharp devaluations in February and December of 2015 as a result of plummeted oil prices – from USD 120 to USD 60 per barrel during first devaluation, while at the time of the second currency devaluation the price plunged to USD 27 per barrel only (Report.az, 2019).

Devaluations occurred in 2015 undermined the development of the non-banking financial sector, notably micro-finance field suffered extremely. Before the devaluation in 2015 45 banks performed in our country. (Currency devaluation: The case of Azerbaijan, 2016) Following the currency shocks, 19 banks were closed in 2016 due to non-performing loans, low quality of assets, insufficient liquidity level, and the overall economic decline.

While, in 2018 the largest national Bank, the International Bank of Azerbaijan (IBA), which is the majority state-owned bank of Azerbaijan, was filed for restructuring in the Court and defaulted on its outstanding debt. (Azerbaijan - Banking and Financing, 2019). Moreover, IBA also filed in the foreign courts such as USA and UK Courts to maintain recognition of the restructuring in abroad jurisdictions as well. (The world factbook, 2018)

While, economic reforms, such as stimulation of export activities, improvement of the business situation as a result of wise governmental policy reflected in the Strategic Road map, led to the economic growth of 0.1% in the oil and 2.7% increase in the non-oil sectors in the country in 2017. (EBF EU, 2018)

The Strategic Roadmap was developed aiming at the successful adaptation to the challenges of the "post-oil" model and existing environment observable in the global economy and financial markets. The Strategic Roadmap was based on the Decree of the President of Azerbaijan Republic "On approval of "Main directions of the strategic roadmap for the national economy and main sectors of the economy" and issues arising out of this" adopted in 2016. The roadmap embraced the strategic vision and action plan for the period till 2025, and one of the main goals can be described as establishment of the effective financial system to address the risks after 2015 aimed at the changing of structure and analyzing the capital of banks and insurance companies to improve their assets and mitigate the risks.

However, the gradually growing oil prices led to the budget surplus of USD 1.7 billion in the current account balance. Meanwhile, the deficit observed in 2015 and 2016, which constituted $9.1 billion in 2015 and $2.8 billion in 2016 accordingly, diminished to USD 0.1 billion. The balance of payments improved not only as a result of increased oil prices but also due to the surplus in the tourism sector and portfolio investments. Consequently, foreign exchange reserves of Azerbaijan grew by USD 2 billion.

Moreover, in 2017 the Central Bank of Azerbaijan (CBA) augmented the monetary base by 8.7% to maintain the demand and the degree of monetization based on the consistently improving exchange rate of national currency and growth of the non-oil field of economy.

The reserves of the CBA at that period strengthened and grew by USD 1.4 billion and amounted to USD 5.3 billion (Center for Economic and Social Development, 2018)

The number of ATMs and POS terminals decreased in 2017, for instance, the number of POS terminals dropped from 71,806 in 2016 to 65,471 in 2017 (EBF EU, 2018).

Meanwhile, POS terminals' number was gradually increasing throughout the last year and reached a total number of 66,610 in the country at the end of 2018. However, the downward trend is observed in the period of 6 months of 2019 and the number reduced from 65,975 in January 2019 to 63,396 in June 2019. (Central Bank of Azerbaijan, 2018).

4.2. Banking System in Azerbaijan

The emergence of the effective, stable, and developed banking system determines the development of the country and its attractiveness for the investors (Summary of the banking system of the Republic of Azerbaijan, 2007).

A two-stepped banking system is presented in our country. The first stage is the National Bank of Azerbaijan and Financial Market Supervisory Authority (FIMSA), while the another is presented by the non-Bank credit institutions and commercial banks constituting the second stage of the system (Banking system in Azerbaijan, 2010).

However, since the beginning of 2016 till the end of 2017 Central Bank terminated licenses of 15 banks, while two banks were closed in 2017. If we make a comparison with the current period, 30 banks currently

operate in Azerbaijan (List of Banks, 2017), including two state-owned banks, such as Azer-Turk Bank and International Bank of Azerbaijan and 28 private commercial Banks (Table No. 4) (Azerbaijan's banking sector: Facts & Figures, 2019).

Azerbaijan banking sector faced considerable growth of non-performing loans in 2014 due to the sharp decrease in oil revenues. According to the statistics provided by the Central Bank authorities, cash transactions constituted 70% in 2014 and impeded the development of financial system accordingly. According to the estimations, considerable amounts of cash are kept outside the financial system. Moreover, the effectiveness of monetary policy was reduced considerably because of a significant portion of deposits in dollars, although the share of mentioned deposits diminished from 70% as of December 2017 to approximately 63% in 2019. Furthermore, despite the improving quality of the loan books of the banks, the role of the banking sector is still insignificant in the financing the real economy.

Besides, interest rates of banks in Azerbaijan are very high and vary from 10% up to 35%, that's the reason why private sources of finance became more popular in terms of business loans.

Moreover, obstacles of development of private business are based on the high interest rates, strict collateral requirements, poor resources to evaluate credit risk (Azerbaijan - Banking systems, 2019)

Figure. 13 Assets of Banks 2018-2019 (Finance and credit, 2019)

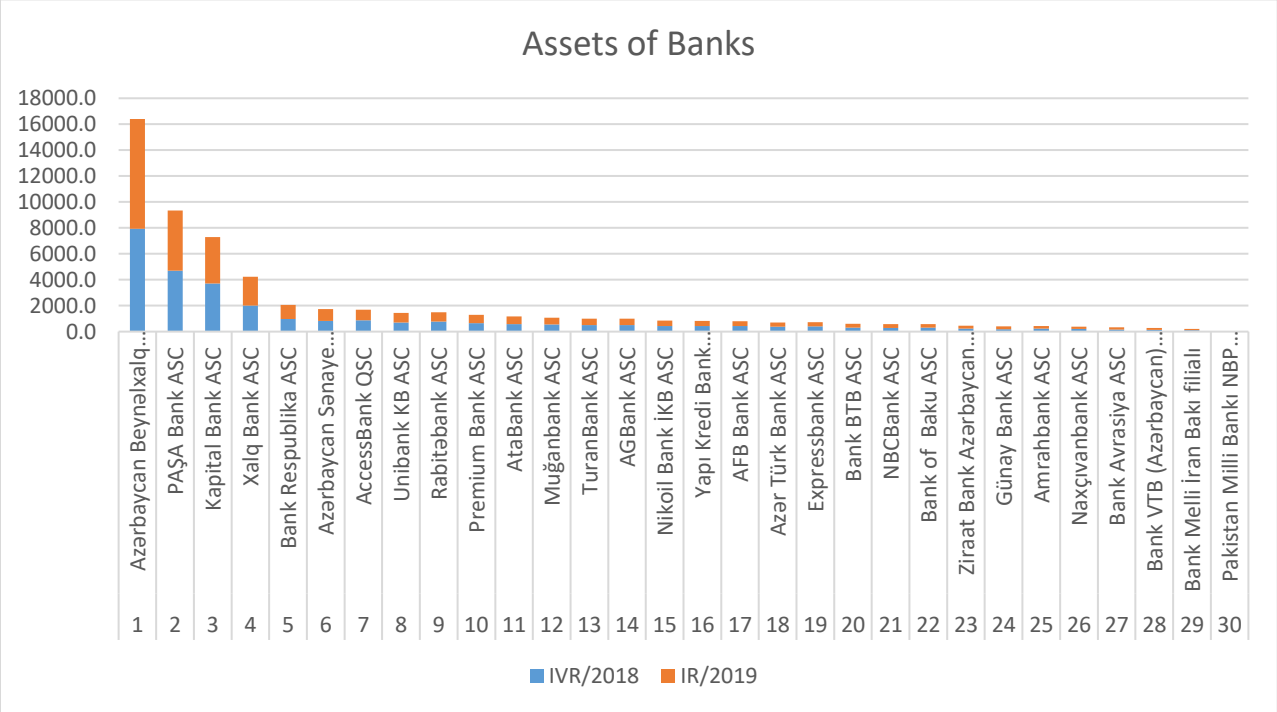
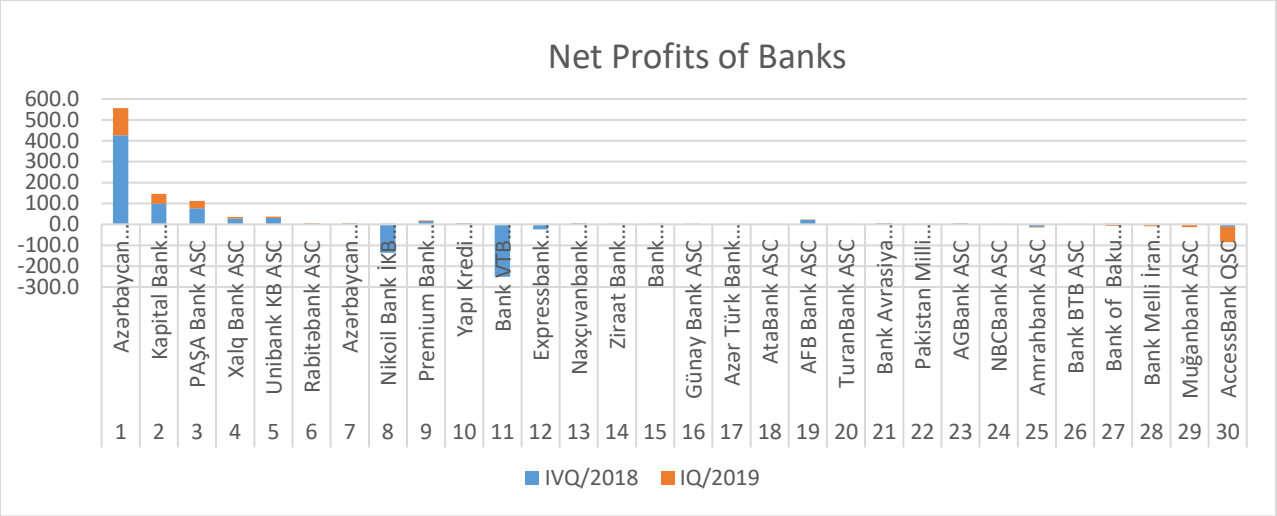


Figure.14 Net Profits of Banks 2018-2019 (Finance and credit, 2019)



Top five banks in terms of Net Profits in Azerbaijan are International Bank of Azerbaijan (IBA) , Kapital Bank, Pasha Bank, Xalq Bank and Unibank *(*Figure.14*).* Top three Banks will be analyzed in more details below.

Table.3 Position of Banks

Leading Position in Cashless Payment	IBA
Retail Banking	Kapital Bank
The Highest Equity	Pasha Bank

4.2.1. International Bank of Azerbaijan

IBA was established in 1992 and is the largest in the South Caucasus area in terms of assets volume. The bank is a state-owned bank (95,15% of the capital), utilizing the most advanced technologies in the banking field to maintain the high-quality level services to the customers. Moreover, the bank is on leading positions in terms of cashless payments turnover and the widest ATM network among banks of Azerbaijan, which reached 756.

Headquartered in Baku, IBA has a large footprint of 36 branches, while, 38 sub-branches provide services to the customers by 1863 professional employees.

Also, innovative bank and card products are constantly developed and applied by the IBA due to the opportunities provided as a result of the partnerships with international payments systems, that creates an added value for the Bank's customers. Furthermore, the IBA permanently attaches great importance to the infrastructure related to e-commerce and steadily stimulates the customers to fulfill the cashless payments. (ABOUT BANK, 2019)

For instance, digital banking embracing Mobile banking and Internet banking become more popular among customers because of the comfort and easiness of usage.

IBAm is an application of the IBA downloadable from the internet, which accelerates banking activities of customers: the processes of both obtaining information about the balance of the card and making payments online irrespective of location and time (IBAM - Mobile Bank, 2019)

The international rating of IBA has been raised by two positions by the international rating agency Moody's:

- the bank's base credit ranking was raised from caa2 to b3
- the long-term deposit ranking was raised from B3 to B1 with a positive outlook
- the long-term counterparty risk – changed from B2 to Ba3.

The enhanced quality of assets and capitalization volume stimulated the positive changes. The net profit of the bank amounted to 426 million manats in 2018 (Moody's raises ranking of International Bank of Azerbaijan, 2019)

4.2.2. Kapital Bank

The predecessor of **Kapital Bank** was founded in 1874 named as Azerbaijan Savings Bank, while later in 2000 three major state banks merged - Agro-Investment Bank, Industrial-Investment Bank, and Savings Bank, consequently, the current name of Kapital Bank was obtained in 2004. Nowadays, bank serves interests of more than three million customers.

The main shareholder of the Bank is "Pasha Holding", one of the largest holdings in Azerbaijan, owning 99,87% of shares, while 0,13% portion belongs to individual owners. Currently, Kapital Bank possesses the largest banking network in Azerbaijan. (About Bank, 2019)

Moreover, creating combined synergy of the state corporate business and retail banking opportunities at the same time as providing the best service to corporate customers are among the priorities of the Bank.

Bank is presented by 99 branches and 13 departments in Baku and regions of Azerbaijan. One of the recent and successful products of the Bank is "BirBank" project, which is the most downloaded mobile banking application with more than 600 000 users in Azerbaijan. Moreover, "BirBank" was listed as "Number 1 Top Free Finance" in the ratings of App Store, Play Store digital distribution platforms. (BirBank has won the "NETTY" award, 2019)

Furthermore, BirBank became the winner of the "National Internet Award" - "NETTY", the Azerbaijan National Internet Award in the nomination "Electronic Government and Finance-Banking Mobile Applications" in 2018. In 2018 BirBank has been chosen as the "Most innovative mobile bank in our country" by International Finance magazine. Anyone with a bank card can simply sign up for a few minutes at BirBank to manage multiple banking services, online orders and payments by phone.

(Internet and Mobile Banking - BirBank, 2019)

In 2018 Kapital Bank established the daughter-company "BirKart Non-Bank Credit Organization" to expand retail business accordingly (About Bank, 2019)

One of the main advantages of the BirKart for Customers is **Quick Response (QR) Pay**. The customer can easily make purchases without a bank card by using BirBank. QR Pay is a new payment type, which is fulfilled by downloading the mobile application BirBank. QR code needs to be scanned with the camera of the telephone at the payment points of stores. Moreover, any banking card can be connected to the mobile application, not only cards provided by Kapital Bank. (Internet and Mobile Banking - BirBank, 2019)

Moreover, international rating Agency Standard & Poor's have increased the rating of Kapital Bank up to "positive" – "BB-/B" from "stable". Thus, Kapital Bank possesses one of the highest ratings among Azerbaijani banks. According to the forecast of the international Rating Agency, leading positions in terms of retail loans and deposits will be strengthened in 2019-2020 period, as well as reputation of reliable financial institute for corporate entities will be kept (Standard & Poor's Agency has raised Kapital Bank's ratings, 2019)

4.2.3 Pasha Bank

Pasha Bank is a leading investment and corporate Bank in Azerbaijan, that represents the part of the largest investment holding group based in Azerbaijan – Pasha Holding. The group of companies also includes significant assets in insurance, construction, tourism, and other types of businesses.

Pasha Bank was established in 2007 and offers an array of financial services embracing asset management, trade financing, and investment banking activities to domestic clients and abroad entities looking to conduct business in the region. It focuses on delivering banking services based on the principles of transparency and core values, such as Integrity, Quality, Profitability, Entrepreneurship, and Collaboration.

The highest total equity among Azerbaijan banks belongs to Pasha Bank, which is one of the top three banks in terms of assets (Table No 4). Moreover, the total capital of the Bank exceeds AZN 548 million. (About us, 2019) .The bank is mainly focused on the clients from the non-oil field of economy to maintain diversification of the economy, such as construction, retail, agriculture etc. Pasha Bank is presented by 7 business centers in Azerbaijan, while offices are also presented in Georgia and Turkey established in 2013 and 2014 accordingly.

The Bank won numerous awards in the financial field by the renowned Finance Magazines and financial organizations. The rating of Pasha Bank was reaffirmed by Standard & Poor's in 2018 as a long-term "BB-"and short-term "B" rating. (About Bank, 2019).

Pasha Bank remains focused on delivering innovative products and services to the clients, so the management and employees aim at meeting customers' needs by the implementation of the cutting-edge digital solutions and technologies in order to maintain customers' satisfaction during the digital transformation period. (Pasha Bank, 2017)

In 2017 Pasha Bank launched the deployment of the Oracle FLEXCUBE financial platform. The design of a new online banking system was accelerated due to the Oracle platform, and consequently, the upward trend was observed in the Internet Banking usage – 86% of all customers' operations were fulfilled through online banking. Furthermore, B2B platform was introduced for big corporate clients such as, Azercell, Coca-Cola Azerbaijan, and SOCAR. Enterprise Resource Planning (ERP) systems of Pasha Bank and their Clients were integrated that drastically facilitated the transactions. (Pasha Bank, 2017)

Being committed to the development of digital services, Pasha Bank steadily takes the appropriate actions, such as the development of the digital strategy, called as "holistic digital model" of the Bank until 2020 aimed at digitalization of core business processes, that will boost the profitability accordingly.

Meanwhile, the Mobile application for individual Clients was developed by the Bank, which will accelerate banking transactions and enhance the following processes:

Payment process (mobile, utility, banking/loans, insurance, taxi, parking), 7/24 support (assistance of the contact center), Security (data is saved according to PCIDSS standard), Bank cards (the process of purchasing of debit cards, Pasha Life insurance card application, replacing/ renewing of debit cards), Transfers (card to card – between own cards or others, via mobile number), Bank loans (application, repayment, prepayment and tracking of loans' status), SMS notification, Transaction history, Block and Unblock, Templates of payments (to accelerate and make easier the future payments' process). (Mobile application for Individual clients, 2019)

Table 4. General Information on Financial Market Participants (Banks) FIMSA "Overview of Banking sector, 28.02.19.

Based on 28.02.2019 Data	
Number of banks	30
State banks	2
Private banks	28
Banks with foreign capital	15
banks with 50%-100% foreign capital, of which	8
local branches of foreign banks	2
banks with less than 50% foreign capital	7
The number of banks licensed since the beginning of the year	0
The number of banks whose licenses have been revoked since the beginning of the year	0
Number of banks branches	508
Number of banks' divisions	130
Number of ATMs	2,510
Number of employees	17,588

4.2.4 Financial local authorities.

Azerbaijan Banking system is regulated by the several Laws, such as the Law "On Banks", "On the Central Bank of the Republic of Azerbaijan", the Charter of Financial Markets Supervisory Authority (FIMSA) and normative acts of the Central Bank of Azerbaijan (CBA) and FIMSA. (Azerbaijan and World Trade Organization, n.d.)

According to the Article 2.1 of the Law of the Republic of Azerbaijan “On Banks”, the banking system of Azerbaijan consists of the local regulator established in 2016 – FIMSA; CBA and credit institutions. (FIMSA, 2017)

- CBA

A National Bank of Azerbaijan was founded by decree of the president in 1992. According to the legislation main functions of the Bank are: determining and implementing the monetary and exchange rate policy, organizing the circulation of funds, regulating and controlling payment systems, maintaining and controlling gold and foreign exchange reserves. In 2009 the Bank was renamed as the Central Bank of Azerbaijan (CBA) and licensing, regulation and supervision authorities of the Bank were reassigned to the new entity according to economic reforms fulfilled in 2016. Moreover, after the changes, the Central Bank concentrated on the maintaining macroeconomic and financial stability, coordination of interbank and licensed payment systems and regulation of cash flow. (Central Bank of the Republic of Azerbaijan. History, 2019)

Azerbaijan state monetary and currency policy is developed and implemented by the CBA. (Azerbaijan and World Trade Organization. Services., n.d.)

- FIMSA

FIMSA was formed in 2016 based on the Decree adopted by the President. FIMSA is the first state legal body ensuring the effective functioning of the financial market, aimed at the enhancing processes such as regulation, licensing and supervision of Financial Market of Azerbaijan to make financial market sustainable and developed. The functionality of the body involves control and maintenance in:

- Insurance field
- In respect of credit institutions: Banks, non-banking organizations and national postal operator
- Securities market
- Payment systems

Moreover, FIMSA is responsible for control and prevention of financing of terrorism and legalization of criminal funds and maintains the transparency in financial field. Furthermore, a new regulatory body is obliged to protect the interests of insurance companies, investors and other stakeholders based on the existing legislation (FIMSA. History., 2017). Furthermore, legal acts regulating the financial market,

including the conduct of inspection and licensing matters (issue and revoke processes) of market players are fulfilled by FIMSA (Azerbaijan and World Trade Organization. Services., n.d.)

- Azerbaijan Banks Association

"Azerbaijan Commercial and Cooperative Banks Association" (ABA) was established in Azerbaijan in 1990 as a result of the collective decision of 10 private banks. Nowadays, members of the ABA are presented by 31 banks and 2 non-banking organizations and Azericard payment system. The major aim of the activity of the organization is the support and protection of corporate interests of the banks and organizations forming this governmental body in terms of legal, social and business services as well as regulation of their performance. Moreover, creating collaborative relationships with international banks and related infrastructure, improving legal aspects of the banking sphere including initialization of reforms in banking field of the economy with the assistance of the Central Bank's and Government's support are also integral parts of the ABA's activity. The ABA initiated the establishment of Azerbaijan Training Center, Court of Arbitration, Bank Information Technologies Center, "Banks and Business" newspaper, signed Cooperation Agreements with 13 Bank Associations around the globe in 2000-2010 period. Moreover, ABA became a member of the International Coordination Council (CIS), European Banking Federation in that period (AZERBAIJAN BANKS ASSOCIATION. History of ABA, 2019)

4.3. Non-Cash Payments and E-commerce in Azerbaijan.

The "State Program on the expansion of digital payments for 2018-2020", which is the foundation for building a digital economy in our country, was adopted by the President of AR. The major objective of the State Program is to stimulate the expansion of non-cash payments and reinforcing the financial resources of the banking field. In order to achieve the objective, the institutional, legal bases and infrastructural capabilities of digital payment services should be improved. The expansion of digital payments will lead to reduced operational costs of banks and financial institutions, expansion of tax base, easier access to financial resources, improved credit and investment environment, that will definitely result in economic growth. ("State Program on Digital Payment Expansion in 2018-2020" will significantly expand cashless payment environment, 2018)

According to the press release of the Central bank of Azerbaijan, the event of awarding the Banks in Azerbaijan devoted to the cashless payments held on February 2019. It was initiated by the Central Bank of Azerbaijan and Azerbaijan Banks Association and was devoted to the cashless payments in Azerbaijan. During the event, the CBA jointly with the ABA announced the contest results on numerous nominations regarding the evolution of non-cash payments, development of innovations, e-banking, and e-commerce in Azerbaijan (Table 5).

The representative of authorities of the Central Bank informed about the development of cashless payments in the country, being one of the most crucial priorities for the Central Bank. The official statistics confirm the progress in the digital transformation of payments. For instance, in 2018, the share of interbank transactions

increased by 31%. Meanwhile, the share of non-cash payments in relation to the card turnover amounted to 17%, increased by 11% in the last five years. The volume of e-banking transactions grew by 18.7 times to AZN 36.4 bln in this period.

According to the President of ABA, the transformation to the digital economy will lead to increased accessibility to financial resources, and an attractive investment climate for the investors. Moreover, the public program involves the enhancement of digital payments environment and recovery of the banking system, including financial literacy strengthening measures.

The following winners were appointed by the CBA and ABA according to the below nominations:

Table.5. (Central Bank awards winners of its contest on development of cashless payments, 2019)

Nomination of "Leading bank on cashless payments at POS-terminals"	
Place I	"Premium Bank" OJSC;
Place II	"Pasha Bank" OJSC;
Place III	"ACCESSBANK" CJSC.
Nomination of "Leading bank in e-banking services"	
Place I	"The International Bank of Azerbaijan" OJSC;
Place II	"UNIBANK KB" OJSC;
Place III	"Kapital Bank" OJSC.
Nomination of "Leading bank in e-trade development"	
Place I	"AGBank" OJSC
Place II	"UNIBANK KB" OJSC
Place III	"Expressbank" OJSC
Nomination of "Leading bank on contactless payments"	
Place I	"Expressbank" OJSC;
Place II	"Nakhchivanbank" OJSC;
Place III	"Pasha Bank" OJSC.
Nomination of "Leading bank on contactless POS-terminal infrastructure"	
Place I	"Pasha Bank" OJSC;
Place II	"Expressbank" OJSC;
Place III	"AtaBank" OJSC.

4.4 Payment Systems in Azerbaijan.

4.4.1 Azericard

Azericard is a pioneer in the Processing industry in Azerbaijan and is certified by MasterCard, Diners Club, American Express, JCB and Union Pay. Partners of Azericard are presented by 22 banks in Azerbaijan and abroad such as IBA, IBA Representative in Russia, Pasha Bank, Silk Way Bank, VTB Azerbaijan, KDB Bank Uzbekistan, and others. (Azericard. About us, 2019)

All the partners of Azericard are authorized by the International Payment Systems. Payments in respect of various services, such as telecom, utilities, customs and tax, internet and mobile banking, card to card transfers, payments of insurance premiums, deposit payments by using ATMs are feasible with Azericard Payment system. (Azericard. About us, 2019).

Moreover, recently, a MobilBank service has been implemented by Azericard, which provides an opportunity to manage a banking account called Special Card Account online from the mobile phone.

This enables customers to execute the following transactions by saving time:

- Checking balance of the card and obtaining statement
- Payments of public utilities
- Payments of mobile communication services and internet
- Card to card services
- Forming exemplary payments – to make it easier for customers making similar regular payments

The process of becoming a MobilBank user is quite easy and includes the receiving of passwords from the ATM and downloading the mobile application to the mobile device. Moreover, MobilBank menu is in the process of gradual improvement, and additional services can be added in the future to meet the clients' needs. (Azericard. Services, 2019)

Furthermore, quantity of plastic cards served by Azericard increased in 2018 by 3%, while number of transactions increased by 10% in comparison with 2017.

Meanwhile, Azericard provides services by using 35 000 Pos-terminals and 1 600 ATMs. (Report Az, 2019)

4.4.2 Millikart

Another widely used payment system in Azerbaijan is "Millikart" LLC. The processing center "Millikart" was established by the Central Bank of Azerbaijan with the financial support of the World Bank as a result of state Tender announced in 2003. It performed as one of the departments within the Central Bank and fulfilled its activities based on the State Program adopted by the Government "State Program for the Development of the National Payment System in the Republic of Azerbaijan for 2005-2007". It was officially registered as the separate legal entity in 2006. The processing center was initiated by 18 Banks aimed at the stimulation of cashless payments and improvement of the business environment and "payment ecosystem" in Azerbaijan with the charter capital of AZN 4 000 000. Nowadays, Millikart provides services to 13 banks with 300 ATMs, 3 000 Pos-terminals and issued 170 000 plastic cards. (Millikart. Payment systems in Azerbaijan., 2018)

"Millikart" focuses on the provision of an array of the financial supporting services to Banks and other players of the financial market, such as non-bank credit entities, aggregators requiring assistance in terms of processing technologies. Moreover, the performance of one of the largest processing centers in Azerbaijan is realized in close cooperation with the National bank of Azerbaijan and Regulator of financial markets (FIMSA). (Millikart LLC. News, 2019)

4.4.3 “Goldenpay”

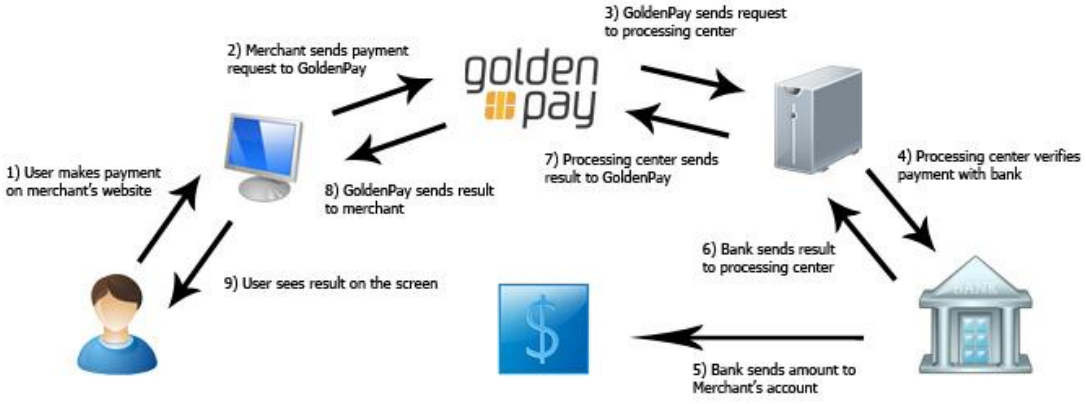
Goldenpay Azerbaijan was the first provider of online payment services in Azerbaijan. It was launched upon obtaining the online security certifications of Visa and MasterCard in 2008. Consequently, the impact of Goldenpay on the evolvement of E-commerce in Azerbaijan cannot be ignored. (GoldenPay. About us., 2019)

The Mission of GoldenPay is to create the most contemporary and developed companies by using the innovative breakthrough technologies. Services of GoldenPay involve: website development, as nowadays, website plays crucial role in the brand image and performance of the company and its expansion on the global arena; consultations on e-life TM – as currently banking transforms to e-banking, insurance to e-insurance and shopping to e-shopping, so entities have to adapt to the global digitalization trend to satisfy the customers’ needs. GoldenPay assists companies in this transformation. E-shops development is also one of the types of services provided by GoldenPay.

E-commerce is fastly developing in Azerbaijan. This way of doing business, online sales, prevails over the traditional one. GoldenPay can provide professional assistance in the stimulation of e-commerce and adaptation to the new generation of trade.

Moreover, software solutions can be suggested by GoldenPay to improve the presence of the Client on the internet and to provide the program which will make the processes automated in the Company (Golden Pay. Payment systems in Azerbaijan., 2018)

Figure.15 E-Commerce payment process



The process of E-commerce presented in the Figure No 15. can be depicted as follows:

Potential client willing to make a purchase online visits to the merchant’s website and makes a choice of the product or service. After that, redirection to the payment website occurs, while it should be noted that websites look similar for the Client’s convenience. After entering all the necessary card information for the execution of the transaction, it is securely forwarded to the processing center, and the total amount payable is deducted from the account of the client’s card to the merchant’s account. The duration of the whole

process takes no more than three seconds. After the completion of the payment, the seller's duty is to deliver the purchased product or service to the customer. Millikart Processing center serves GoldenPay in Azerbaijan for the payment process. The clients can use any credit card – Visa Electron/Maestro or MasterCard from any bank around the globe. (Golden Pay. How it works., 2019)

4.4.4 Azerpost

The history of National Post service falls back to the 19th century, while, further economic and cultural development of the nation triggered the evolution of postal services accordingly.

In 2004 AzerPost was given a status of the national operator under the Ministry of Communications and Information Technologies of the Republic of Azerbaijan. After the adoption of the new Law "On postal services" in 2004 and further changes in legislation applied in 2008, the Azerpost became authorized to provide financial services. Nowadays, Azerpost is presented by 63 branch post offices, 7 communication hubs, 4 subsidiaries, 1497 post offices, and 83 postal agencies, that indicates the huge opportunities for the development of postal and financial services due to the most extensive network in Azerbaijan. Currently, services provided by all AzerPost offices are based on the modern and the most advanced technologies to maintain customer satisfaction. E-commerce services being developed in Azerbaijan are successfully implemented due to the favorable geostrategic location of the country, existing transport corridors, and the necessary infrastructure. Moreover, Azerbaijan is acting as a regional HUB to fulfill and promote interstate e-commerce.

In 2017 the "Shebeke" project was launched at AzerPost. Not only traditional post and telecommunication services are provided under this project, but also banking, tourism, airline tickets' sales are concentrated at "Shebeke" centers. Moreover, customers can purchase compulsory insurance contracts, electronic signature, make money transfers, utility payments, mortgage payments etc. at the "Shebeke" offices.

The major aim of implementation of the project was to provide professional services centralized in the one place to the population in order to avoid the bureaucracy, to speed up the processes and to make them more transparent. (Azerpost. History and Today., 2018)

Mobile banking is one type of a variety of services provided by AzerPost.

Based on the recent trends of digitalization of all spheres of life, the National card initiated the combination of mobile phone and money. Thus, users are able to manage their cards and obtain all necessary information about the card balance, while, banks are expanding products and services portfolio and are enabled to provide the most innovative mobile banking services.

The "CIB" mobile banking solution is a tool for more convenient payment and card dealing processes, such as, account management (one account is managed from various devices), card management (balance information, information on operations, card activation, card cancellation etc.), money payments and transfers (including creation of templates for regular payments). (Mobile Banking., 2018)

4.4.5 Government Payment Portal (HÖP)

Government Payment Portal (GPP) is another widespread payment system in Azerbaijan. It was created after the launching of National Payment System (NPS) initiated by the Central Bank of Azerbaijan in 2001-2002 based on the cutting-edge technology.

The real-time interbank transactions fastened cash flow, integration of retail payments to utility and government organizations became feasible due to the launching of the Large Value Payment System (AZIPS) and Retail Payment System (BCSS) in this period, which are crucial elements of the (NFS) required infrastructure. In 2008 another NPS element was introduced – the Centralized Information System on Mass payments as a result of numerous researches executed in this field aimed at investigation of processes, such as integration of internal NPS system information to the systems of utility, other mass payments entities to maintain the payment process and to stimulate the cash flow to the banking system.

The payment processes made through GPP starts from identification of the recipient of the funds (budget organizations etc.) by the special codes already existing in the system automatically. Moreover, banking details of entities responsible for receiving funds are included into the payment data, that simplifies the transaction process and eliminates the risk errors, so payment transactions are automatically processed in the State Treasure Agency of the Ministry of Finance and the Ministry of Taxes' internal data systems. Nowadays, 13 public bodies, 97 judicial authorities, 10 municipal organizations, 9 legal entities (with state shareholders), 6 state universities, 13 insurers (members of Compulsory Insurance Bureau) and 3 telecommunication companies are integrated into the system. The system is utilized for 523 types of payments, involving 400 public services payments (taxes, rent, administrative penalties and others). Also, payers are identified due to the integration of Automated Tax Information and Inter-Company Automated Data Search Systems to the GPP. (Government Payment Portal, 2018)

5 Mobile Financial Services Background

5.1 Introduction

The rapid growth of the network extension and the number of subscriptions reinforce the business opportunities not only for mobile communications but create a positive environment for other sectors as well. The development of wireless telecommunication industry allows the rapid development of e-commerce management from mobile devices as well. The new type of e-commerce transactions performed through mobile devices using a wireless telecommunications network is called Mobile Financial Services. In the generation of advanced technology and digital transformation, the financial sector has passed the essential changes, and the new ones are modifying the traditional financial services. (GSMA Intellegence, 2019)

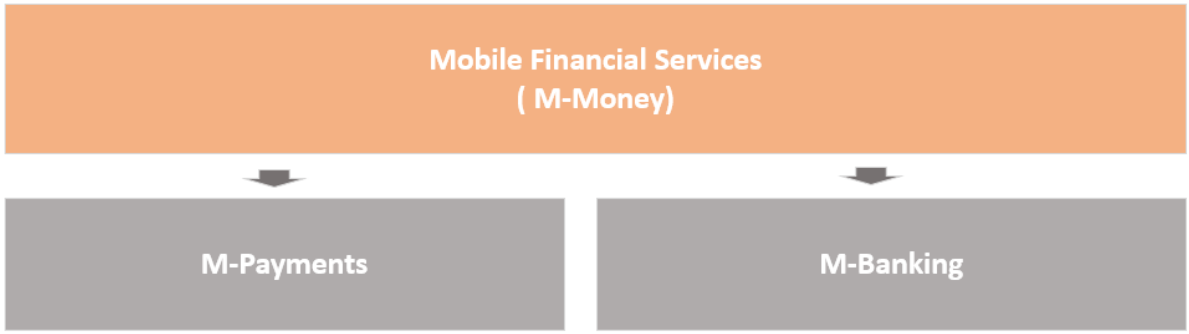
Mobile financial services are also characterized as 'mobile money' which enables the user to carry out financial transactions (ITU, 2016). Together with mobile banking services, which work via bank account consumers, the different types of other payment methods like e-wallets, e-payments are also getting popularity nowadays. The existence of mobile network operators endorses the usage of mobile phones as the new paradigm in the application of mobile financial services. MFS first emerged in the regions where

mobile communications services prevailed the banking system. Mainly the inclusion of financial services through mobile communications first started in Africa and Asia region where most people do not have access to the traditional financial institutions. (State of the Industry Report on Mobile Money, 2017) Meantime the service was spreading to other continents, and the number of users increased. From the first launching days, the service popularity gradually increased, and in Y 2018, the annual growth rate constituted 20% (State of the Industry Report on Mobile Money, 2018).

The possibility of making money transactions, paying bills, and purchasing good and services through mobile devices simplify the consumers' financial lives. MFS is considered as money and time-saving opportunity tool for consumers, as consumers do not have a time limit and can control their money anytime. Therefore, accessing financial information and managing finances in real-time is a valuable opportunity for consumers. (Mobile Financial Services, 2015). Besides, the existence of the MFS and the prevalent usage of mobile communication creates new channels and instruments for the financial institution for reaching additional users. The MFS positively influences the financial services market position as today highly demanded consumers require more sophisticated and user-friendly digitalized tools. Meantime, consumers, particularly in developed countries, prefer the cashless opportunity. According to the world payment report, the non-cash transaction increased significantly in the worldwide and forecasted the global compound annual growth is 12.7% (World Payment Report, 2018)

Generally, mobile financial services characterized all services that are performed through mobile devices. However, the board interpretation of MFS can be differentiated in the following way. (Mobile Financial Services, 2010)

Figure.16. Mobile Financial Services



5.2 Mobile Payment

M-Payment is a service of money transactions using their mobile devices through an application or by sending a text message. This technology handles different payments, including credit, debit, and prepaid cards and nonbank payments through Apple, Samsung, Google Wallet, and PayPal. While installing the mobile payment through smartphone consumer can make a payment by loading credit or debit card information onto mobile devices or choose the nonbank accounts. (Mobile Payments, 2016)

The growing popularity of mobile payments encourages the further innovation of MFS through advanced digitalization tools. The payments, which are made by mobile phones, provide more convenience for consumers and eliminate the transaction cost and increase the security of electronic payment. It sustains the purchase of good and services and money transfers through different types.

- Person to person
- Person to business
- Government to person

Mobile money person to person function enables transferring of money between two account holders through mobile communication services. The money is converted from cash to the mobile money transferred the account to the other person where a receiver can convert the mobile money to the physical currency.

Mobile payment can also be used in the payment of different goods and services, for example, for paying bills, electricity, water company or mobile usage bill.

Mobile payments also include 'bulk payments,' which are made by a business or government to persons (G2P), for example, salary and social transfer to individuals.

Generally, mobile payments simplify the transaction process both for individuals and businesses. Consumers do not need to spend time for visiting a bank or attending any payment points for transferring money or paying utility bills. At the same time, the additional work is simplified for business as well when making a payment for a group of people. (Mas & Almazan, 2014)

Nevertheless, for facilitating the mobile payments process the required infrastructure and technological excellence should be provided by financial and mobile communication service providers. Like any financial transaction, mobile payment services require the high-security level. Mobile payment services contain the well-constructed authentication infrastructure. (Raina, 2014). For the elimination of any fraud action, the data is being protected from an unauthorized user and keep the confidentiality between client and service provider. The payment request is being created by mobile devices and sent to the remote machine, and the process completion notification message is being sent back to the client device. Meanwhile, nowadays, smartphones simplify security control by handling different authentication credentials like passwords, PIN codes, and biometric identities like fingerprints. (Desta, 2012)

Based on the characteristic of mobile payment, there are different technological tools for the implementation of the payment.

5.3 Mobile Payment Technology

Mobile Payment technology is divided into proximity and remote payments. Proximity payment technologies enable the contactless payment within the assistance of radio technologies when both parties are physically in the same location. Remote payments technologies can handle the payment process independent of the payer's location, by using a communication tool SMS, or a mobile application. (Mobile Financial Services terms explained, 2013)

5.3.1 Point of Sales Payment System (POS)

Mobile POS payment allows consumers to purchase goods and services in retail stores through vending machine and payment terminals. However, the POS payment system has different types of the payment system in its turn as well:

a) Near field Communication (NFC) payments.

One of the mobile POS payment forms, which is widely used in the developed world is NFC payment. For the NFC payments, the mobile device must support NFC, and while making a payment, the phone communicates with the NFC-enabled card machine by using close-proximity radio frequency identification. Comparing with chip and Pin technology NFC creates a direct and immediate transfer of encrypted data to the point of sale. The consumer is not required to enter the Pin code and use some verification tool; he /she must wave the mobile phone over the POS terminal. In fact, in some cases, contactless payment is divided into micro and macro payments, where for macro payments consumer must wave phone twice for verification. (Pasquet, Rosenberger, & Reynaud, 2008) NFC has some benefits over a traditional card payment. First, the information is being transmitted immediately, and the second one the payment can be made when the mobile device is close to the payment machine. Besides, data transmission is highly secured. The data encrypted when the information is sent to the NFC reader where the token decrypted. (Gullien, 2017), (McCarthy, 2008)

Apple-Pay and Google-Pay support the NFC payment model. Also, the smartphone companies are implementing NFC technology in their devices, and the number of smartphones supporting NFC technology is steadily increasing.

b) Sound wave-based (or sound signal-based) mobile payments

In this form of money transfer, the existence of the internet is not required, as the transaction is being proceeded through unique sound waves by containing encrypted data about payment. The transaction occurs by receiving a sound wave from terminal to the mobile phone, where the payments details information is converted to the analog signal and finalize the payment process. Sound wave-based technology is more usable in the region where smartphone penetration is not high, as there is no need for extra hardware, and a card terminal requires simple software installation. (Entrepreneur, 2017), (Mobile Payment Industry Overview)

c) Magnetic secure transmission (MST) payments

MST payment is when the magnetic signal imitates the magnetic stripe of the credit card and card terminal accept this information as if physical credit card swipes through the terminal. Some terminals do require a correct software update for accepting MST payments. Samsung pay supports MST payment technology. Like NCF, MST is using tokenization technology for the encryption card details and while receiving the information through NFC and MST bank creates the randomly created virtual cards details for each transaction. (Choi & Lee), (Sorensen, 2018)

5.3.2 Both in store and remote payment

a) Mobile Wallets

The mobile wallet is an app that can be installed in smartphones. The mobile wallet can apply different m-payment technologies. Due to the fact, that not all mobile devices have NFC technology, and, in this case, the mobile wallet allows to use the different information for payment. It keeps the information of payment cards and when the user puts the required information, and the payment information is being linked with personal information such as some keys, quick response code (QR) or an image of the owner to each card that is stored. The PayPal, Amazon Payment, Google Wallet can be considered as the examples for a mobile wallet. (Ghag & Hegde, 2012)

b) Quick Response (QR) payments

QR code is a barcode, which consists of black squares that form the matrix in the white background. For every transaction, the seller must provide the consumer with QR code, and the consumer must scan the QR code by using a mobile device. The QR code contains all information related to the successful transaction, such as bill number, account, and bank details of sellers. While using the QR code owner must scan the QR code through the bank application, and the sum is deducted from consumer wallet after the application recognizes it. (Quick Response (QR) code, 2018)

5.3.3 Remote Payments

a) Internet Payments

The consumer installs the additional application through a web page. It uses the WAP (Wireless Application Protocol). Together with benefits, it has negative sides as well. It is easy to follow on sales and store and share information, and the purchase is being made very quickly. However, the usage of application is not user-friendly and requires a desktop environment. (Types of Mobile Payments, 2016)

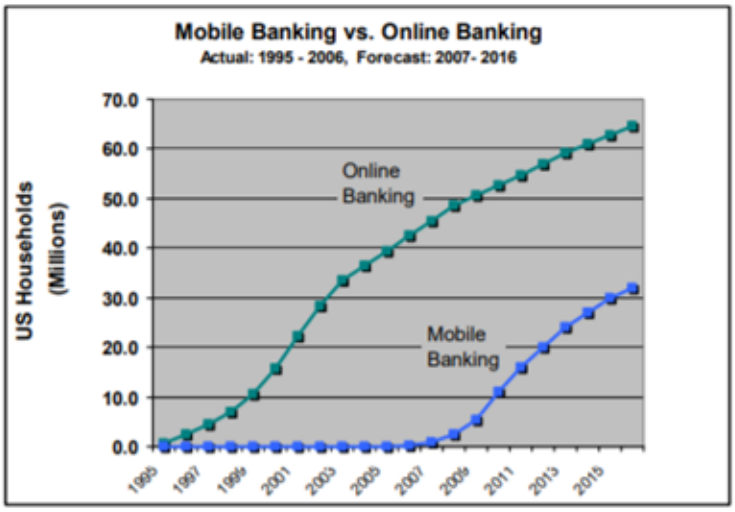
b) SMS (Short Message Service) Payments

In SMS payment tool consumer sends a simple message and receive the specific code or password. The cost of the service is being added by the mobile operator to the monthly bill of the customer when it is a postpaid subscriber, and in case of prepaid - deducts immediately from the balance. It is a more appropriate tool for micropayment as it does not require any credit card information. (Sorensen, 2018)

5.4.Mobile Banking

The fast-modified market requirements and growing consumer demands urged the development of the new technologies for shifting from traditional financial services to the new agile financial services. Together with other mobile payment solutions, mobile banking is becoming the one of highly required service. (Rossi & Tuunainen, 2004).The adaptation of the next-generation technologies enabled Banking to consider the new way for reinforcing cooperation with the consumer. Banks are diligently using the different advanced technologies for the attraction of the consumer market. Mobile banking service gradually penetrated the market by overtaking online banking. According to the Online Banking Report, which was evaluated by MMA in Y2009, starting from the emergence period mobile banking penetration elevated continuously, and in the nearest future, the penetration rate will reach the online banking level. (Mobile Banking Overview, 2009)

Figure.17. Mobile Banking vs Online Banking



Through mobile banking, consumers can do different money transactions, balance inquiry, bills payment. The most common used Mobile Banking services are the following: (Mobile Banking Overview, 2009)

- Account alerts, security alerts.
- Balance check
- Customer service via mobile
- Money transfer notification
- ATM location information
- Online payments

Previously mobile banking service was done only through short message service (SMS), but the enlargement of the data services in the wireless telecom industry and highly advanced smartphone technologies allows to use banking through the web browser and download the mobile baking application. Now, most of the banks have their mobile applications and try to provide the most of services through applications. Mobile banking allows managing personal financial tasks by performing online banking tool. The customer only needs to install the required application, sign up, and verify the details of the account. (Rossi & Tuunainen, 2004)

5.5. Mobile Financial Service Stakeholders

The rising demand makes MFS industry attractive even for non-financial entities. The telecom market players, such as mobile network operators, smartphone manufacturers, and technology companies are considering the financial industry as “blue ocean strategy” (Kim & Mauborgne, 2005) and are enlarging their product portfolio by introducing the new substantial advantages in the mobile payment industry. Consequently, today Google, Apple, and other technical giants entered the financial market ocean and created a significant threat for traditional financial players. (Mobile Payment Industry Overview)

5.5.1 Mobile Network Operators.

Generally, MNO and financial market have nothing in common, and MNO can compete only with telecom industry players. However, mobile operators slowly are entering the mobile payment business. The first interference occurred in the emerging markets, where the traditional banking system penetration was very low, and consumers made mobile payments through mobile operators. The success story of some mobile operators in Africa region, for instance, Kenyan mobile operators` M-Pesa service inspired other mobile operators to use the mobile payment as a new revenue stream. After the productive launch of M-Pesa, the mobile operators in Africa and Asia region started to use Vodacom experience.

Moreover, mobile operators have all required consumer data, and some of them used their information in cooperation with banks for providing various payment solutions through mobile devices. For instance, in Y 2015, Telenor Pakistan re-registered all its active SIM cards. The company used this information in the utilization of the biometric data for providing mobile financial services to customers. After the successful results of the mobile payment in the emerging market, the mobile operators in the developed countries also started the implementation of the mobile payments systems. According to ACI Worldwide, telecom operators' share in mobile payments in Europe could reach to €13.3 billion in 2022 from €3.4 billion in 2017. (The Mobile Payments Opportunities for Telcos, 2017). Eventually, the MFS service is getting high popularity across the world, and mobile operators are considering MFS as the new revenue stream in their portfolio. (Smith, Markendahl, & Andersson, 2010)

5.5.2 Bank and Financial Institutions.

Traditionally all money transactions have been proceeded by financial institutions and banks. However, the rapid changes in technological innovations and consumer preference also affected the bank and FI services. With the evolution of high-tech companies and mobile operators raising interest to the financial services urge the traditional market players sedulously strength their market position. New players in the business area mitigate banks position by providing alternative services and disintermediate banks from some money transactions process. (Omarini, 2018)

Banks also are enlarging their product portfolio through different assets. Now, most of the banks are establishing retail banking systems and are chasing technological development by trying to sustain consumer retention through different features. Almost all banks are trying to adopt digitalized services by providing mobile banking and considering the implementation of Artificial intelligence features in their product portfolio. Modern digital banking is becoming key competitiveness in the financial business area as well. (Ovum Decision Matrix: Selecting a Digital Banking Platform, 2019)

Despite all innovative efforts, banks are remaining the foremost institute in the significant money transactions, and the new players are not able to replace their functions completely. However, in the time of rapid progress, in addition to refining the product portfolio and implementation of digitalization, banks can make a win-win solution agreement by making a cooperation with wireless telecom companies. (Rosingh, Seale, & Osborn, 2001)

5.5.3 Smartphone Companies

Today Android and iOS devices are serving the online payment services, like Apple Pay, Google Pay, and Samsung pay. The usage of these services is straightforward, and within a short period, these online services get a significant user consumer profile. The users' number is sharply increasing especially in the developed countries. (Apple pay and the Benefits for You, 2015)

According to the study from Juniper Research, the mobile payment contactless users will exceed 760 million by 2020, which will be two times higher than estimated in 2018. It is also predicted that the original equipment manufacturer (OEM) pay services Apple Pay, Samsung Pay, and Google Pay, will reach 450 million by 2020. (Study: Apple Pay to reach 200M users by 2020, 2018) All 3 OEM pay services are integrating their hardware system, and the availability of POS payment solutions makes them highly compatible in the mobile payment industry. (Donkin C. , Apple Pay hits multiple new European countries, 2019)

5.5.6 Online Payment tools.

In addition to the tools mentioned above, there are also alternative online payment services, such as PayPal and Google Wallet, which are creating the possibility of digital and mobile payments and peer-to-peer money transfers worldwide. (Transforming money powering potential, 2019) PayPal's net payment volume was around 161.5 billion U.S dollars in the 1st quarter of Y 2019, which is 22% higher than Y 2018. (PayPal's total payment volume from 1st quarter 2014 to 2nd quarter 2019 (in billion U.S. dollars), 2019)

PayPal was launched before the Google wallet, and it is the best alternative of money transfer both for the consumer and business market. Google wallet is considered as the cheapest online payment service, which enables keeping debit and credit card information on a smartphone and transforming it into a virtual wallet. (Google Wallet vs PayPal-which one is better?, 2016)

5.6. Mobile Financial Services Model

Depending on the deployment of the service and integration among stakeholder's MFS service model can be implemented in the following four ways. (Chaix & Torre, 2011)

1. Bank Centric Model

The bank enables the money transfer between the receiver and sender by providing the connection between other banks or mobile network operator. In this model, banks implement the mobile payment application and provide the merchant with the POS system.

2. Operator Centric Model

In this model, MNO interacts as the vital player by providing the required technology for money transaction. The Operator Centric model was very demanded in the less developed countries where traditional financial institution market penetration is very low.

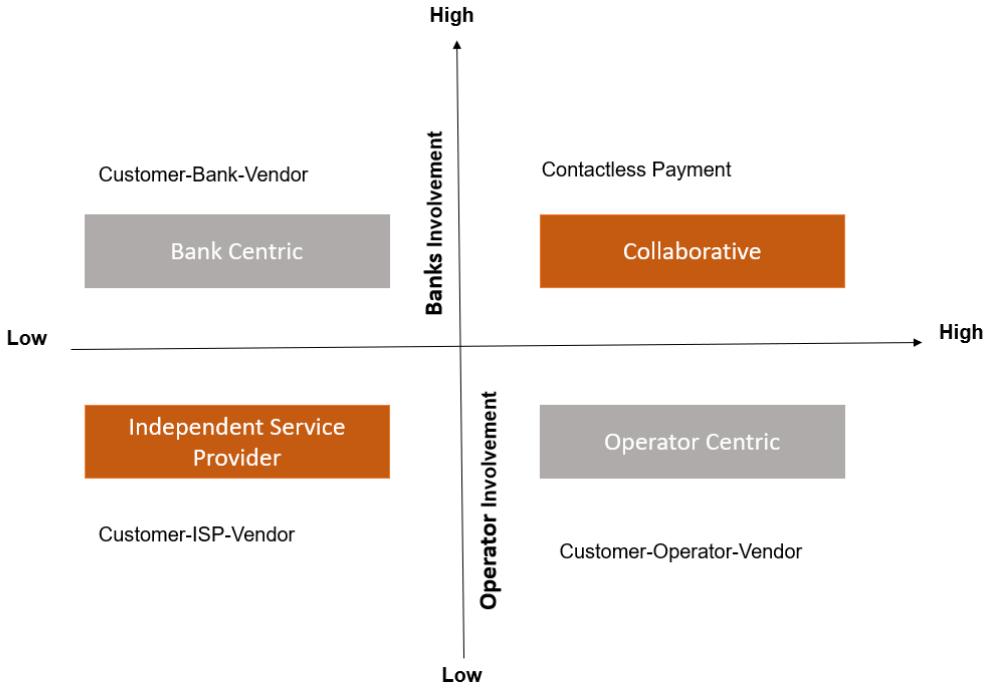
3. Collaborative Model

The collaborative model characterizes the mobile payment solution, which is established in the collaboration between banks and telecom operators, and in some cases, involve the third-party service providers as well.

4. Independent Service Provider Model (ISP)

In the ISP model, the third-party acts as an independent intermediary in providing transaction. Apple Pay, Google Pay, PayPal, and Wallet are independent payment solution. These services are considered as user-friendly tools, as for proceeding with payment, a consumer needs email, bank account, and smartphone supporting contactless payment.

Figure.17 Mobile Financial Service Model



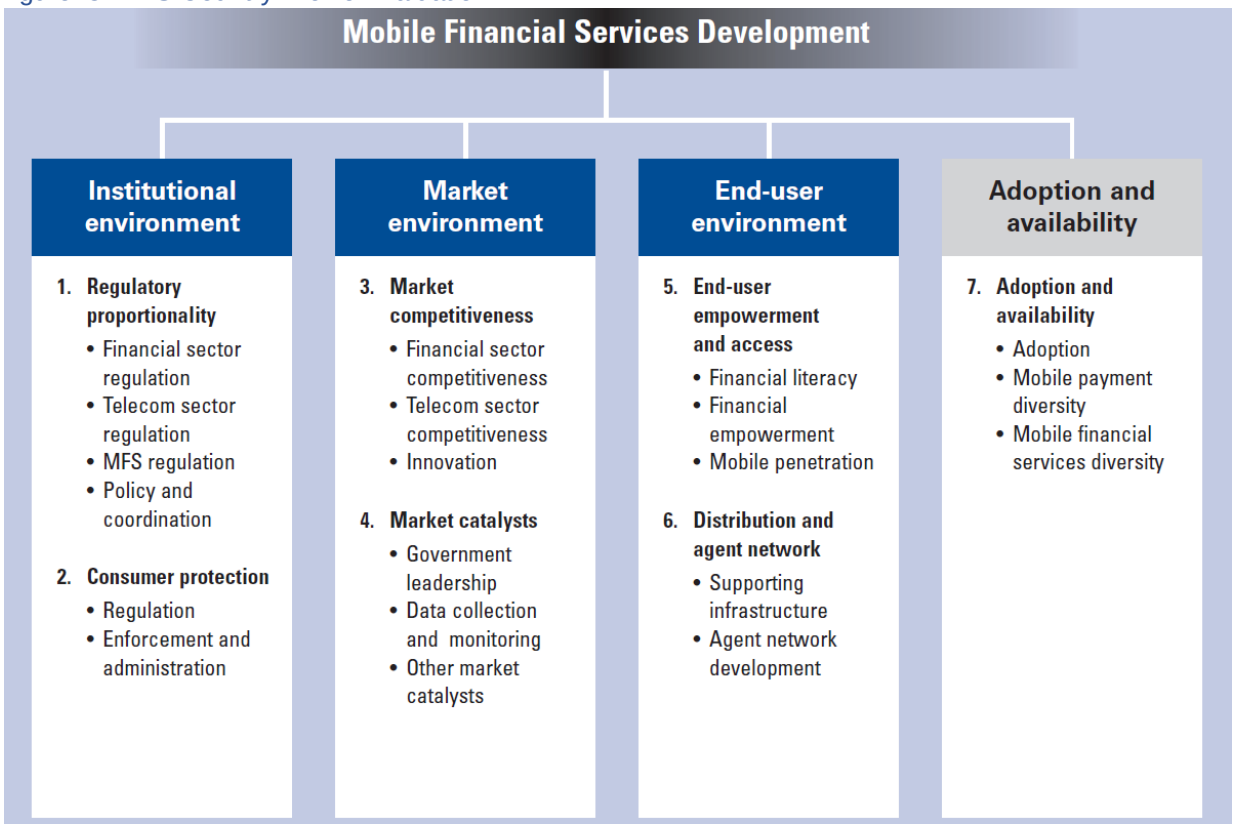
5.7 Mobile Financial Services in Azerbaijan

Comparing with other countries MFS payments system has not well developed in Azerbaijan. Due to the existence of Bank systems and their increasing penetration starting from Y 2014, mobile payment systems have occurred in the country's financial market later than in other developing countries. In the comparison of the seven years, from Y 2007-to 2014, the bank penetration percentage has almost doubled. (Prgozhina, 2015). Meanwhile, starting from Y 2008 with the entrance of the Golden pay to the Azerbaijan market, the financial sector of Azerbaijan started to acquire the new advanced payment systems. (goldenpay.az)

However, there is enough place for further development of MFS in Azerbaijan, and for the understanding, the industry requirements for the development of MFS the peculiar distinctive supporting and imposing factors influencing service productivity must be evaluated. For the evaluation of country-specific prerequisite, the seven pillar MFS development measurement can characterize the country profile of Azerbaijan in the following way. (Bilodeau, Hoffman, & Nikkelen)

5.7.1 Mobile Financial Services Country Profile Evaluation.

Figure18. MFS Country Profile Evaluation



- Institutional Environment

1.Regulatory proportionality

Azerbaijan Financial Market is being regulated by the Financial Market Supervisory Authority (FIMSA) and Azerbaijan telecom sector is being regulated by the MCHT (Regulations of the Ministry of Transport, Communications and High Technologies of the Republic of Azerbaijan, 2018).

The government has an active involvement in the development of the financial services landscape. In the Year 2017, the center for analyses of economic reforms and communication accomplished the strategic roadmap for the development of the financial services in the Republic of Azerbaijan. The roadmap contained the short and medium strategies and action plans until 2020 and the long-term perspective for 2025. (Azerbaijan Economic Reforms Review, 2017) The roadmap covers the whole financial services industry from a different perspective, but the key objectives can be characterized in the following way:

- To reinforce financial inclusions through the development of insurance and bank systems.
- To strength the infrastructure by providing the straight regulation and control
- To enhance the digitalization of the financial services

- Expansion of alternative financial services channels and changing the model of financial institutions for better understanding consumer demand.

2.Consumer Protection

The consumers' rights are being protected by The State Service for Antimonopoly Policy and Consumer Rights' Protection under the Ministry of Economic Development. (Consumer rights are protected in Azerbaijan, 2013). The law of the Azerbaijan Republic on consumers' protection rights enables equal possibilities for producers and consumer for any trading process within the territory of the Azerbaijan Republic. Overall, consumer's rights contain the free selections of the good and services, having access to the qualified commodities (product and services) and getting complete knowledge about quality, type, and quantity. (Law of the Azerbaijan Republic on protection of consumer rights, n.d.)

- Market Environment

3.Market Competitiveness

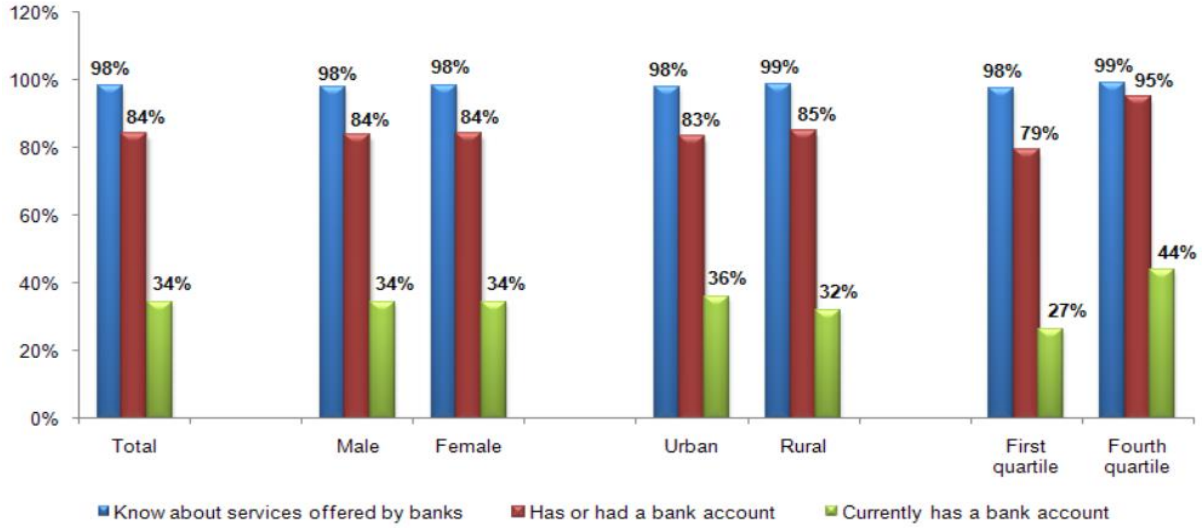
The telecom sector in the country is being provided by 4 Mobile Network Operators and two fixed telephone network services. Moreover, the fixed-line and mobile communication availability within the country is very high as the state, and the private sector has established technological infrastructure. (Technical Assistance Consultant's Report, 2014)

The banking system mainly dominates Azerbaijan financial system, while non-banking system cover the tiny share in the market, the total assets of financial system generated 88% and 9.7% respectively, while, insurance companies cover 2.3%. (Ibadoglu, 2018) Banking and non-banking services have passed through a steady increase in the last decades, and even the global financial downturn in Y2008-2009 has not impacted the country's financial system. (Conrad, 2012)

However, the local currency depreciation in Y2015 has strongly affected the financial system. The currency depreciation caused additional financial burdens on the country's economy, and around 15 banks were abrogated by government, and the licenses were withdrawn, with the end of Y 2017 the total number of banks shrank to 30 from the previous 45.

The bank accounts are the most prevalent product in Azerbaijan and according to the Y 2015 Financial Capability and Inclusion Survey (FCIS) report, about a third part of the population have this product. Although, only the small share is presented by active users but generally, the majority has overall knowledge and use it periodically. In addition, according to the World Bank Report, 34% of the population has a formal bank accounts, whether 84% indicated having it in the past, and 98% of them knows about service. (World Bank Group, 2016)

Figure.19 Knowledge and Usage of the Bank by Individual characteristic in Y 2015



4.Market Catalyst

Azerbaijan government authorities are intensively performing working group programs for the implementation of digital technologies. (Digitalization may become one of the drivers of development of Azerbaijani banks, 2018). Central Bank of Azerbaijan and FIMSA lead all projects regarding the digitalization of the financial system in Azerbaijan and deployment of the cashless payment system. The latest financial and digital technologies week meeting was held on May 2019 with a participation of FIMSA and Ministry of Transport, Communications and High Technologies, the Central Bank, the Center for Analysis of Economic Reforms and Communication and the Azerbaijan Banks Association. (mincom.gov.az, 2019). It was agreed to sign the new memorandum for the establishment of the single platform for the cooperation of financial and digital technologies and the information exchange in the field of innovative services and products. (Fintex Summit, 2019)

- End-User Environment

5.End-user empowerment and access

The rapid integration of technology and the availability of different advanced tools have influenced the consumer behavior of the Azerbaijan population as well. Despite the fact, the financial literacy level is not high and is planned to be developed through regulatory assistance, and the financial inclusion is gradually increasing. According to the Asian Bank country's evaluation report, the financial literacy in the country is modest, and despite the awareness of MFS services, the real users of the service are deficient.

According to the World Bank Y 2017 the Financial literacy data, around 29% of the population has the bank account and comparing with Y 2011 it is almost doubled, increased from 15% to 29%. In addition to this data, in the financial capability survey report, which was held in Y2015, around 39% of the respondents confirmed having a bank account. In addition to bank accounts, the small proportions of the population use mobile financial services. Based on the World Bank's Y 2016 report, even though 65% of respondents have information about e-money services, only 0.3% is actively using this service. Although the number of active

users is very low but comparing with Y 2014 data when it was 0.1% of the total survey result, it is increasing gradually. It confirms the fact that despite the E-money is a new approach in the financial system in Azerbaijan but can get a gradual increase in the upcoming years. (World Bank Group, 2016),
Considering that the mobile communication penetration is very high, as it reached 110%, and smartphone penetration is increasing, there are favorable market conditions for the development of the financial services via mobile devices. (GSMA Intelligence Data, 2019)

6.Distribution
Nevertheless, the infrastructure is not well developed, some actions were done for the development of the financial services in Azerbaijan. The Golden Pay was the first online payment system which is certified by MasterCard and Visa. Besides, telecommunication companies are also providing some micropayment services.

Together with digitalization, the strategic map underlined the importance of the adoption of new payment systems considering the emergence of the young consumer segment. The young generation's preferences are toward the online mode services, which are linked to social media. It is also considered to enlarge the financial services model by considering the world-wide experience and getting new knowledge and skills for the implementation of the new systems. (Azerbaijan Economic Reforms Review, 2017)

Together with World Bank Group's "The Electronic and Digital Financial Services Project" Azerbaijan, Central bank and FIMSA are working on the spreading the cashless payment system in the Nakhchivan Autonomous Republic. (Azerbaijan-aims-to-become-caucasus-leader-in-cashless-payments, 2018). The establishment of the new cashless payment infrastructure will enable to proceed payment operations through mobile phones. Starting from Y 2018 CBAR and FIMSA enhanced resources for the development of "Non-Cash Economy" strategy and by the deployment of the Digital Banking systems. (Digitalization may become one of drivers of development of Azerbaijani banks, 2018)

Some mobile payment technologies, such as remote payment model including SMS payment and Internet payment tools, are valid in Azerbaijan. Nonetheless, the POS payment tool implementation has not developed yet, but CBAR and FIMSA are diligently working on the implementation of the POS payment technologies in Azerbaijan. The communication has already started with Microsoft and Visa Card authorities. This information was approved in the interview with Unibank and Pasha bank authorities.

- Adoption and availability

Mobile Payment service is not well diversified in Azerbaijan. However, considering that mobile network penetration is high, and the banking industry is also endeavoring implementation of the new product ranges, the intelligence of the MFS can strength the total financial market in the country.
The deployment of the new technologies in the financial sector is one of the critical targets in the strategic plans of the country for the upcoming years. The advanced infrastructure and the digitalized service

capabilities must be spread among the population, and the financial literacy level should be sustained through different opportunities.

Nevertheless, the seven-pillar measurement is not enough for the estimation of the total country outlook from a different perspective. Therefore, the most fundamental assessment of the market analysis can be made through SWOT analyses by defining the implication of external and internal factors. Although, in addition to the peculiar assessment of MFS development through regulatory involvement and market competitiveness the evaluation of the MFS in comparison within traditional payment systems can root out the advantages or disadvantages of the MFS against traditional payment systems.

5.7.2 MFS Participants in Azerbaijan

Although the MFS development is on the modest level in Azerbaijan and the advanced MFS features, such as contactless payment tools have not well established, the steady expansion is going with the involvement of the MFS service participants.

Mobile Network Operators.

Due to the fact, the banking structure has developed in Azerbaijan, and mobile operators are considering the MFS service as a new revenue stream and loyalty service for customer retention. Mobile operators are implementing the Collaborative centric model through collaboration with banks. All mobile operators have launched mobile online payment services. The access to Hesab.az, Azericard, HOP, and other online payment portals are available from the website and from mobile devices through mobile applications.

Azercell has also launched Mobilbank service within the cooperation of International bank of Azerbaijan. Azercell subscribers can install the indispensable application through Azericard' s website and make the following actions:

- Payment for mobile operators, Internet providers and utility services
- Account details
- Card-to-card transfer
- Lost card blocking
- Balance checking
- Latest transactions, cash flow, bank account status including when you are abroad

(Azercell.com, 2019), (Technical Assistance Consultant's Report, 2014)

Bank and Financial Institutions.

Azerbaijan Financial system has passed significant changes, and now most of the banks have mobile banking systems and provide the mobile applications for the simplification of payment methods. The banks' applications implemented required mobile banking software within an extensive list of highly secure features.

- Personal account management
- Payments

- Money transfer
- Online loan repayment and top-ups of deposits
- Multicurrency converter

However, Azerbaijan is still considered a country with the traditional banking system, and it is expected that traditional banking system will be overcome by mobile banking and rule the whole market by Y 2030. (Orujova, 2014)

Online Payment tools.

Most of the global online payments like Google Wallet, Apple Pay, Google Pay, and Samsung pay are not functioning in Azerbaijan. Azerbaijani customers are able to make international transactions through Pay-Pal only. (paypal.com, 2019)

At the same time, CBAR and FIMSA are proceeding negotiations for the implementation of NFC payment tools in the country in the nearest future. However, several local online payment systems are valid within the country.

5.7.3 SWOT Analysis

Figure.20. SWOT Analysis

Internal	**Strength**	**Weakness**
	Time consuming services	Low penetration
	Cost efficiency	Lack of awareness
	No time limit	The modest level of infrastructure
	High Control system	Security concern
	Opportunity	**Threat**
External	The government support	Strong competition among banks
	Consumer demand for digitalized services	Consumer misuse
	Embedded Mobile phone features	Real Market Potential
	Mobile market penetration	Competition by financial institution

- Strength

Compared with traditional services, MFS services can be considered as time-consuming and cost-efficient services. The consumer does not need to apply cards for each transfer and can proceed the payment in 24 for hours in the seven days. Besides, having a direct connection through phone can control and get the notification about any transaction in time.

- Weakness

Consumers do not have enough information about MFS services, and the lack of awareness can cause some problems such as mistrust and security concern. Additionally, the infrastructure of MFS services has not been established.

- Opportunity

The mobile market penetration and consumer demand for digitalized services can create a productive environment for the implementation of MFS. The digitalization of financial services is one of the critical objectives in financial plans of the government, and CBAR and FIMSA are managing the financial sector's digitalization.

- Threat

However, there is a risk that the implementation of the MFS can cause additional competition among banks, besides, customer's mistrust to the banking sector and wrong utilization can make the wrong public opinion and restrain the real users from MFS implementation.

Consequently, after estimation of all positive and negative features, the total outcome is positive. Considering that the financial landscape of the country is productive, and the market has the potential for the deployment of the MFS and the developed mobile telecom industry can maintain and support the management of the service.

Eventually, the evaluation of 7-Pillar and SWOT assessment tools clarified the country profile by comparing the regulatory involvement, the economic situation of the country and the estimation of the traditional and mobile financial services outlook from a social and technical intelligence perspective. It confirms the fact, that the country's political and economic situation is fruitful for the development of the MFS services and the saturated mobile telecom industry together with banking system can generate the productive condition for the implementation of mobile financial services. Besides, the increasing financial literacy and consumer avidity to the diversified digital services can inspire the financial and mobile market to create the win-win cooperation strategy.

6. Literature review

6.1 Introduction

The literature review has been required for the estimation of assisting and impeding factors to the mobile telecom revenue modifications. The different industry-related resources clarified the reason of mobile revenue stream reduction from the global outlook, and the mobile operators' efforts toward the revenue deterioration through new revenue streams' realizations. The global overview can facilitate the projection of Azercell horizons by mitigating the negative impacts caused by different factors and sustaining revenue

through new streams. For the evaluation and finding of the required information, the literature review was estimated through below indicated parameters. (Mark Saunders, Philip Lewis, and Adrian Thornhill 2009), (Uma Sekaran, Roger Bougie, 2010)

Table 6. Literature evaluation

Parameter	Narrow	Broad
Subject area	Mobile Operators	Wireless Telecom Industry
	Mobile Financial Services	Financial Industry
		Challenges and Opportunities
Business Sector	MFS services in Mobile Operators	Telecommunication Industry
Geographical area	Europe &Asia	Worldwide
Publication period	5 years	10 years

6.2. The Modification in the MNO revenue outlook

Mobile communication services have expressed the exponential changes in the last decade. The extensive modification of the highly advanced technological innovations sustains continuous development in the industry. The transition from voice-based 2G technology to the data-centric UMTS world was driven by the industry`s intention to dynamic changes. The adoption of new technical capabilities shifts the mobile operators' traditional services profile and urge them to broad horizons by looking for alternative services. (Ballon, 2007)

However, together with advanced technology integration the different external and industry related factors influenced MNO positions in the communication industry. (Gautam & Singh, 2015)

6.2.1 External factors

- Economic situation
- Regulatory intervention
- Alternative communication tools

Economic situation

The telecommunication industry constitutes one of the main components of economic growth as one of the fastest developing parts of the industry, which generates free cash flow. Meanwhile, any instability in the economy creates an adverse effect on the telecom profitability and thereby, the global financial crisis (GFC) has negatively impacted the revenue of mobile telecom industry as any business environment. The telecommunication industry has also experienced a downward revenue trend, and the economic meltdown caused the decline of the overall and telecom industry GDP worldwide. In the period of recession consumer and enterprises market tried to diminish the consumption through cost-efficiency. (Confronting the Financial Crisis, 2009)

Mobile communication industry as any services experienced the detrimental effect of the diminishing profit. The GFC impacted European mobile communication companies as well. During the 2008-2009 economic recession period, the mobile communication market has experienced the annual average 2-5% of revenue

decline in the Western Europe market. (How Financial Crisis and Recession Impacted Communication sector in Europe, 2009). Even though the western Europe market recovered from the insulation of the financial crisis, the eastern Europe market decline continued until Y 2011. (Mobile Europe, 2011)

Meanwhile, the economic downturn, together with Europe impacted the developing Asian market as well. Indian and Singapore operators had been impacted by the global financial crisis as well. Singapore operator`s revenue and EBITDA reduced by single digits during the GFC period. (Singapore Business Review, 2015)

Regulatory intervention

Because of the changes in the economic situation in the last decade, regulatory bodies reinforced inspection of the mobile network industry. Regulators performed the new regulation plans for monitoring the misuse performance and market share distribution by mobile operators. These actions planned to decrease the cost for consumers and make mobile communication service as a mainstream service. One of the principal regulations of the mobile communication pricing strategy has been started by European Union, and the European parliament had diligently controlled the over continent mobile communication price and made the mobile communication services, especially high-cost roaming price more affordable for customers (REGULATION (EU) 2018/1971 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, 2018).

Additionally, regulatory bodies and anti-monopoly agencies regulate the pricing strategy through benchmarking methodology. Mobile operators are regulated for not applying price ceiling or price discrimination strategy within the country. (Cullen International, 2014)

Besides, starting from the beginning of 2000`s the telecommunication regulatory bodies over the world urged mobile network operators to launch mobile MNP service. Mobile number portability enables switching from one mobile operator to another by keeping the existing mobile number. The launch of MNP diminishes the mobile operator's power by transferring the relocation of mobile number property to the consumer. In addition to simplifying the porting process for the consumer, it also reduces the switching cost for the customer as mobile operators allocate all transmission requirements. Due to regulatory obligations, mobile operators must adjust their software system and cover all expenses through their internal financial resources. (Buehler, Haucap, & Dewenter, 2006), (Khan, 2010)

Alternative communication tools

The evolution of advanced technological development and relocation to the IP technology industry enhance the integration of online consumption services and the emergence of new services and business models operating over the Internet. The commonly known internet-based services as over the top (OTT) establishes the rapid communication channel between consumers and providers over the Internet. The OTT data channel can be transported over the fixed or wireless network infrastructure by using WIFI or mobile broadband. OTT services can be divided into OTT content, messaging, and voice calling. (Report on OTT services, 2016)

Hence, the arrangement of communication services over the Internet mitigate the mobile communication services' position. Smartphone penetration and the progression of high-speed internet availability enables the substitution of mobile services by OTT services. Even though OTT players use mobile network operator's infrastructure, on the contrary, diminish the mobile operators` revenue by substituting their traditional services. (Over the Top players (OTT), 2015). Simultaneously, the emergence of voice service over IP connectivity endorse the transition of international and local calls to OTT service providers as well as Mobile operators confronted with the decline of their traditional communication tool consumptions. According to the research made by Revector due to the OTT impacts mobile operator revenues leading to the 25% decrease in 2016. Meanwhile, OTT Bypass creates competition for telecom operators in terms of termination calls, the tendency of Voice over IP apps redirecting calls from telecom providers and terminating them in apps is observed. It results in the 25% revenue reduction from termination calls revenue for mobile operators. (New threat to mobile network operator revenues, 2016)

However, the worse OTT impact appeared in messaging service and within the raise of awareness of OTT the SMS revenue declined. According to the Price water house Y 2017 report, around 80% of the messaging traffic belongs to Viber, WhatsApp, iMessage, while, Skype accounts for more than 30% in terms of international traffic voice minutes. Consequently, telecom providers faced with decreased revenues in SMS, international voice, and roaming with shares of 30%, 20% and 15% accordingly. (Telecommunication Trends, 2017).

The growth of the reputation of OTT can be explained due to the cost efficiency strategy and the availability of additional features compared with mobile communication tools. Despite the diminishing prices and cutting profit margin, mobile communication services cannot compete with OTT services in the affordable price approach. Besides, OTT services arrange more diverse and innovative communication features which meet the prerequisite of the young generation. New digitalized customers express more different communication behavior than decades ago and, the timeframe of rapid technological development and digitalization drastically strengthens the OTT position in the market of communication. (Economic Impact of OTTs, 2017).

6.2.2. Internal Factors.

- Traditional Services Revenue Decline
- Competition
- Substitution of Voice via Data service.

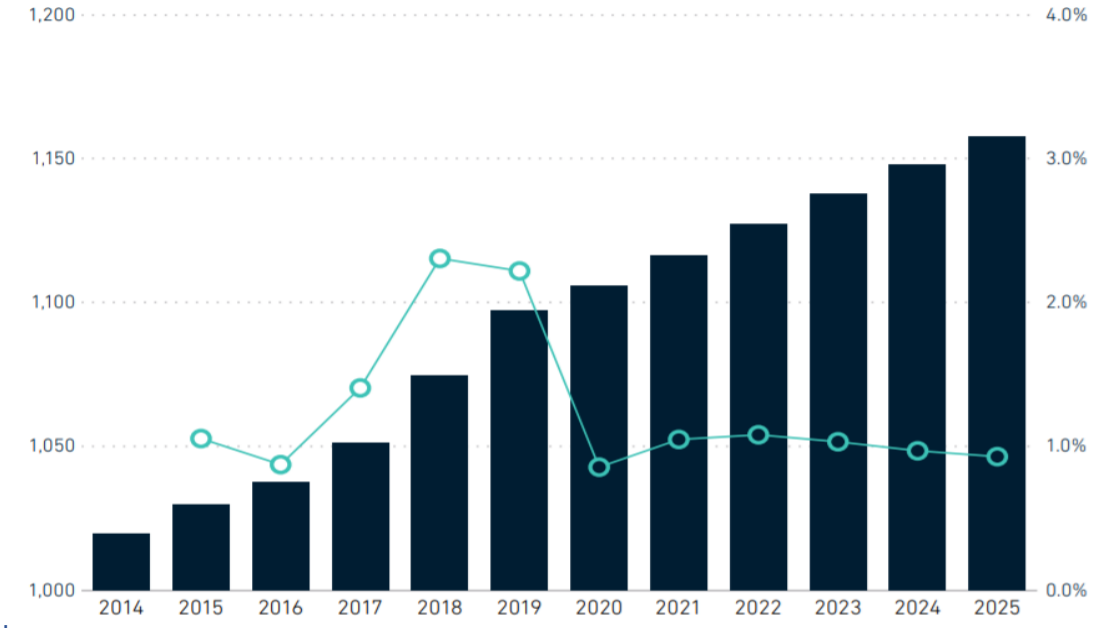
Traditional Services Revenue Decline

The airtime and short message service (SMS) used to be the main revenue streams for mobile operators. However, considering within previous years' trend, the revenues from both services are gradually declining. SMS texting service expansion occurred in the early 2000s and had become the most popular mobile communication mainstream revenue endowing a substantial contribution to the mobile operator`s income. Nevertheless, now, mobile operators are experiencing shrinking airtime and SMS revenue. Despite mobile

operators' intention to sustain the subscribers` retention by managing price-cutting strategy for airtime and SMS, the consumption of these services is not raising, and the ARPU is experiencing the steady decline. (How can mobile operators look beyond falling traditional revenues, 2018). (The State Digital Communication, 2019) The rising competition and market penetration through the expansion of the number of subscription and making mobile services affordable to all market segments confirm the supply and demand interrelation. While with the growth rate of penetration, prices declined respectively, and mobile communication services commoditized.

Based on the Juniper research, the voice revenue will continue to decline, and the loss from voice revenue will fall by annually 10 % through 2023. (Mobile Voice Revenues to fall 157 billion by 2023, 2018). Besides, according to the GSMA, mobile trend report the global mobile market revenue growth rate is very low and starting from Y 2020 compared with previous years, and the marginal annual growth will be shrinking. (Global Mobile Trends, 2018).

Figure.21 Total Global Revenue Growth.



The mobile operators have suffered in terms of decline in revenues around the globe. According to the Icra Ratings rating agency, an 11% decrease in revenues in 2018 was observed in India, while, for 2019 the forecast of further 7% is expected. (Telecom companies revenue to decline for 3rd consecutive year, 2019)

The marginal decline in revenue occurred in China telecommunication industry in 2018 as well, The China Mobile Communications Corporation, the largest mobile operator around the globe, experienced the first decrease in operating revenue in four years. (Telecom firm sees marginal decline in revenue, 2018)

Compared with Asian Networks European market has also faced the aggressive decline. The biggest mobile giants of Europe such as, Telefonica, Orange, Vodafone, Deutsche Telecom, and Telecom Italia confirmed the aggressive decline of the revenue by 46% compared to Y 2010 financial results.

(Telecommunication, is it declining business model?, 2019). Revenues earned by “Orange” French telecommunication group have recently reduced for the first time in the last two years. The reason for revenue reduction is a fierce competition among players of telecom industry in the country. Revenue of the group dropped by 1.8% to 3.81 billion euros from 4.41 billion euros (Telecoms group Orange's revenue in France falls for first time in two years, 2019)

Competition

The emergence of MNP over the worldwide mitigates the mobile operators' position and strengthens the competition among market participants. Mobile operators started aggressively using different marketing strategies for the acquisition and retention of customers. The vigorous competition through price discrimination strategy (Hollenson, 2014) jeopardized the overall mobile networks revenue. Mobile telecom industry reached to commoditization and market saturation. The integration of the mobile telecom industry has quickly passed to the developing market. Now even the countries with low per capita income have 2 or 3 cellular networks and face intense competitive pressure among players. Meanwhile, the competition among players is becoming more aggressive in the developed world, whereas all mobile operators obtained advanced technological infrastructure and expanded network coverage. Despite adjusting any dynamic modifications, the substitutability opportunity among operators is very high. (Carlo, Rossoto, & Robhlf, 2009), (Grzybowski, 2004)

Substitution of Voice and SMS with Mobile Broadband.

The ongoing downward trend in voice and SMS usage and the emergence of high-speed mobile cellular systems enhanced the implementation of innovative mobile data services. Besides, the stagnation of the Voice and SMS revenues shifted the mobile network consideration for stimulation of mobile data usage. Starting from Y 2011, the mobile internet revenue overtook the SMS revenue. Operators started to transform their marketing strategy from voice-oriented bundles to the data-centric models. New strategies are focused on promoting the data service as the primary communication tool and whereas voice and SMS services are included as add-on services in data packages. Mobile broadband became the new revenue generator for mobile operators. (GSMA Intellegence, 2014)

The industry analysis which was done by Tefficient in Y 2019 confirmed that almost 46% of mobile networks across the globe achieved to stabilize revenue by increasing data usage. (All operators climbed the tree, 2019)

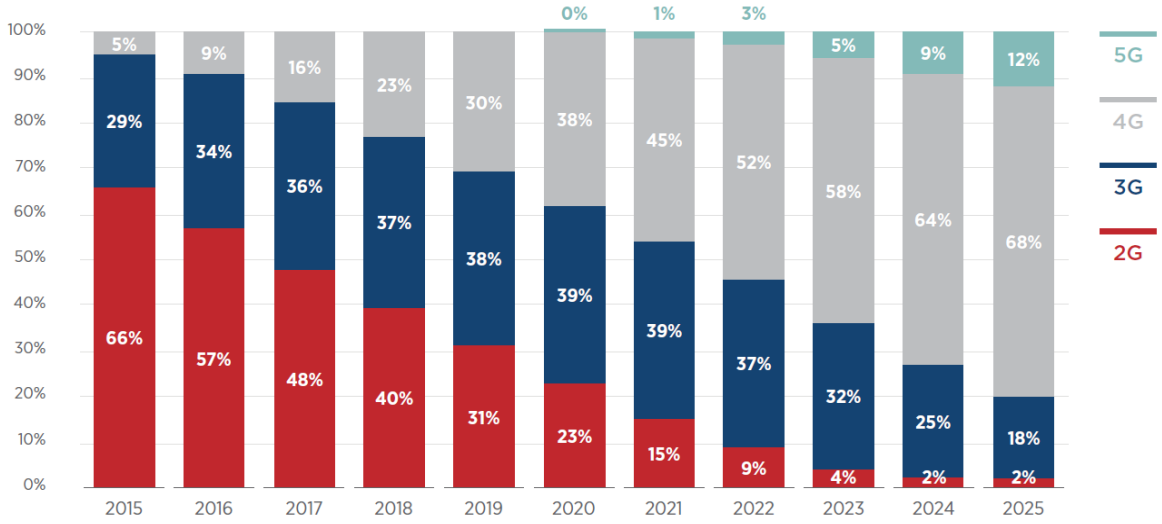
Besides the decline of the Data price boosts the world-wide data usage. Together with developed countries, mobile broadband consumption increased in the developing African and Asian countries as well. The mobile broadband expansion also is triggered by smartphone penetration as well. (World Wide Web Foundation, 2019) The increasing popularity of social media, content applications modified the consumers' communication habit by making them addicted to online connections. The transformation of communication models and the availability of smartphones emphasized mobile cellular data usage.

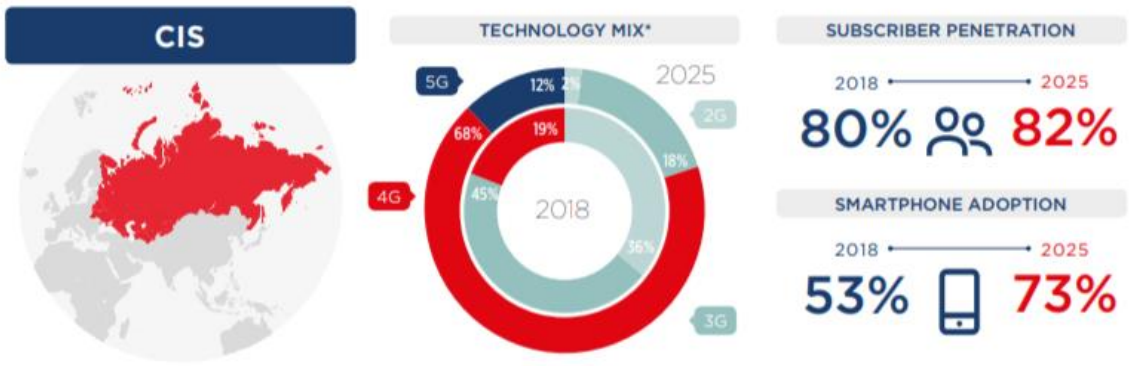
Considering the implication factors as customer preference and the advanced development of cellular technology and smartphone penetration, facilitate the mobile broadband upward trend. The digitalization simplifies access to the different sources of information via broadband. The availability of online and digital libraries, online shopping, and mobile banking reinforce the mobile broadband consumptions. (Broadband a Platform for Progres, 2011)

According to Pyramid research results in Y2015, the half of mobile operators' revenue was being generated by mobile data, and the proportion is going to increase, and the total mobile data revenue will be reaching 600$ billion in Y 2020 (Mobile Data Revenue, 2017). Meanwhile, Ericsson Y 2016 reports also confirmed the dynamic change of data usage in the latest periods. The evaluation of Y 2016 and forecast until Y 2022 the data traffic compound annual growth rate will be 46% (Future mobile data usage and traffic growth, 2016)

Besides, the distinct evaluation by GSMA also affirms the expansion of mobile broadband in the CIS region. Mobile networks across the region are experiencing the rapid growth of mobile broadband. 4G connection increased by 16% in Y 2017 and projected to increase in Y 2025. At the same time, the 5G is expected to be launched until 2025 in Azerbaijan, Georgia, and Belarus respectively. The smartphone penetration is projected to increase up to 73%, and simultaneously the mobile broadband CAGR rate will be around 40% until Y2023. (GSMA Intellegence, 2019)

Figure.22 The shift of Mobile broadband in CIS region (in percentage)





Meantime, the determination of the financial indicators of the traditional communication tools and strengthening position of mobile broadband endorse mobile operators to consider the additional way for the sustaining revenue. Besides, the growing subscriber's demand induce mobile networks to the implementation of more innovative and digitalized services.

6.3 New Revenue Streams in MNO Portfolio

Comparing with Voice and SMS, data usage expressing the upward trend and now mobile operators build their strategy for the development of the data-centric services. Mobile operators are sedulously trying to have a variety of value-added services. The mobile communication industry is undergoing a constructive evolution driven by innovative technical development and market saturation Companies are putting all efforts on the innovations and funding modernization, while, embracing a new "strategic identity" appropriate for the market, organizational culture, and resources (Telecommunication Trends, 2017).

In order to withstand the market saturation and cannibalization of mobile communications by OTT services, mobile operators are emphasizing all efforts for the constituting of new revenue streams. (Dave, 2017)

- Internet of Thing
- Value -Added Services
- Mobile-Financial Services (E-Commerce)

6.3.1 Mobile Internet of Things (IOT)

The expansion of the cellular connectivity and the integration of technical maintenance endorse the deployment of the digital transformation and development of new business models for mobile networks. Mobile IoT services constitute the new revenue outlook and competitive advantages for mobile operators through evolving advanced interconnection between devices and IoT applications. The installment of a smart environment via seamless connections formulate the new advantages for customers and constitute the new agile customer experience (Ahmed, 2018). IoT is becoming a new challenging trend for mobile operators looking for refining service levels and obtaining the new value streams. Mobile operators across the worldwide, particularly in countries with high market penetration and developed infrastructure, are

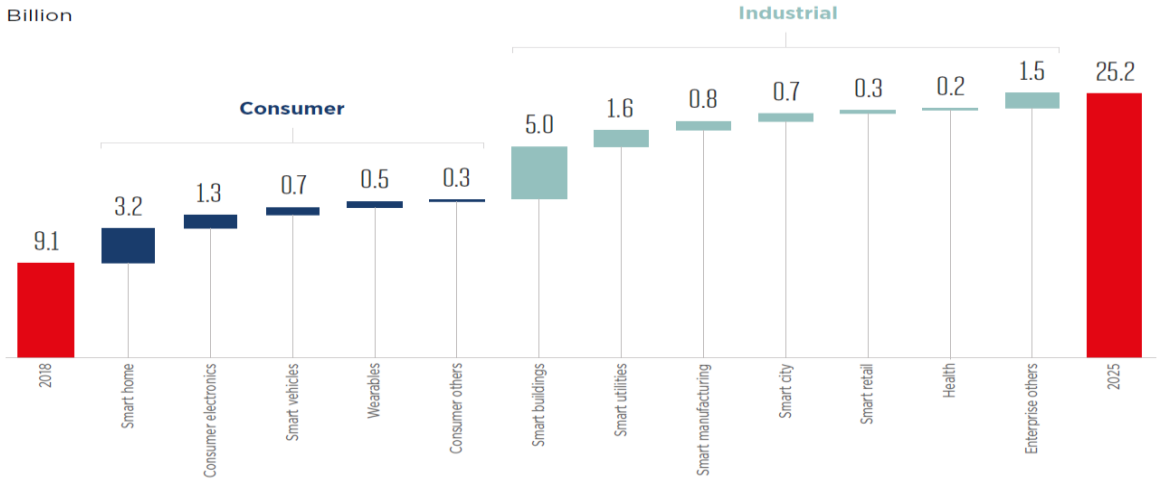
including IoT services to the scope of their products. The worldwide group companies, Vodafone group, T-Mobile group, Telefonica, Telia Company, and other mobile operators with huge subscription and revenue shares, such as China Mobile and AT&T have already launched IoT services. (GSMA, 2019) Meanwhile, the list of operators is increasing gradually as mobile operators around the globe, considering the implementation of IoT services as a new revenue stream and upgrading their hardware and software system accordingly. In Y 2016 the revenue from IoT connection reached 6,3 billion USD, and it is projected it will be reached 25 billion in Y 2025. Besides, the main increase will occur in industrial IOT connections. (How Mobile IoT is Changing the Industrial Landscape, 2018)

Table.7. IOT Connections

IOT Connections	2016	2025F	
Consumer	**3.9**	**11.2**	**187%**
Industrial	**2.4**	**13.8**	**475%**
Total	**6.3**	**25**	**297%**

Consumer IOT	Industrial IOT
Smart Home	Smart Building
Smart Vehicles	Smart Utilities
Consumer electronics	Smart City

Figure.23. IOT Connections



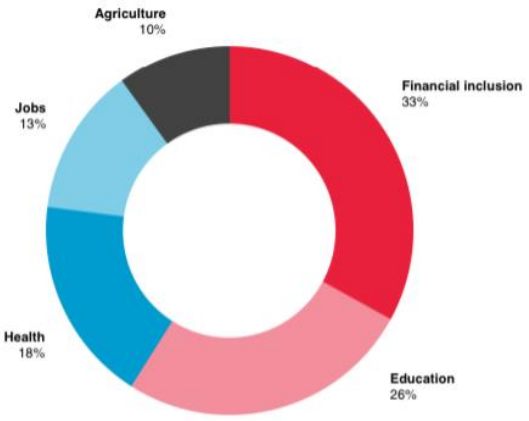
Meanwhile, the IoT connections have been tripled in CIS regions within the few years, and it is forecasted the total revenue will be reached 660 million by 2025. (GSMA Intellegence, 2019) Consumer IoT increased due to smart home availability, however, the industrial IoT connection will be raised after the deployment of smart cities and utilities. Recently, some operators in CIS like Megafon, Beeline-Kazakhstan, and Belarus Velcom have already started deployment of some IoT connection tools (The Mobile Economy Russia and CIS, 2019)

6.3.2 Mobile Value-Added Services (MVAS)

A value-added service (VAS) associate the services beyond predominant mobile communication services. Various internet-based VAS services are dominating the traditional voice and SMS and Multimedia services (MMS). The integration of mobile broadband also sustains the integration and enlargement of VAS services in mobile networks portfolio. Meanwhile, VAS services are becoming the new revenue stream for mobile operators, and the accumulated revenue from VAS services reached 690 billion in Y2017 (Increasing Need for Value Added Services, 2019), (Nilsson, 2017)

Mobile VAS services create tremendous business opportunities for mobile network operators in finding the new way beyond traditional services creating the advance service infrastructure. Through a partnership with different business environment participants, mobile operators reinforce the potential areas for revenue generation. (GSMA Intellegence, 2019)

Figure.24. The biggest opportunity from MVAS services.



However, education and health services were also considered favorable tools for business opportunities, but most mobile operators considered the financial inclusion the most productive one.

Mobile Payment.

Telecom Operators include mobile payment services in their portfolio by creating the new digitalized tool for consumer financial services (Mobile Operators and Fintech, 2017). Further, in-depth evaluation of mobile payment indicated in the following chapters. MFS services can be outlined as a part of VAS services. However, for the detailed review, the MFS part was evaluated in separate section.

Mobile Health

Mobile Health is a fast-developing area of the healthcare sector, which maintains healthcare support and connections through mobile devices. The information is transmitted through mobile devices to healthcare institutions. (Society for the study of addiction, 2019). The integration of mobile technologies and seamless infrastructure maintain the efficient value for both patients and healthcare institutions by creating a high-speed connection.

Starting from Y2009 mobile operators reinforced the interference to the e-Health market by providing the seamless connections between population and hospitals. France mobile operator Orange Telecom has established the connection between 500 radiologists and 12 million patients, while USA operator AT&T created the board healthcare network in the state of Indiana (MHealth, 2012)

Mobile Education (M-Learning)

Mobile Education or M-Learning provides extensive advantages for educational institutions learning and teaching through mobile communication devices. Mobile communication consolidates online learning and tutorials, e-books task planning, curriculum, and other education management tools. Users can access the enormous amount of data without any restriction in time. It is becoming one of the demanded tools and MNO all around the world include it to their product ranges. (Mobile Education, 2011)

Mobile Gaming and Apps

With the modification of consumer lifestyle and increasing demand, mobile gaming has entered the mobile communication tools. The evolution of advanced smartphone market creates an immense opportunity for the development of mobile gaming. (Realizing Potential of Mobile Gaming, 2009)

Mobile TV

Nowadays, mobile network companies started cooperation with online content providers offering online steaming. In collaboration with major content providers such as, Netflix mobile operators enlarge their product portfolio by adding entertainment services and making a possible online watch of movies and tv series (New revenue opportunites for Telecom Operators, 2018)

6.3.3 Mobile Financial Services

The expansion of mobile broadband and smartphone penetration reinforced mobile devices interference to the different industries and diverse mobile network industry landscape by creating productive collaborations with other business areas. MNO started to reshape the new business opportunities through cooperation with financial institutions. The implementation of the MFS services by MNO is becoming a new trend for creating a revenue stream and strengthening customer retention. Firstly, mobile payments were used for micro-payments by SMS through MNO billing infrastructure. However, in the next stage, mobile operators extended presence in financial services. The agreement between Mastercard and GSM Associations integrated worldwide operator driven financial transactions (Mobile Operators and Fintech, 2017).

The involvement of the Mobile operators in financial services constitutes the value preposition both from financial institutions' and consumer's perspective.

The advantages for financial institutions:

- The possibility of downloading apps to mobile device
- The connection from mobile broadband
- The availability of seamless connections 24/7
- Facilitate payment process

Mobile operator's extensive coverage creates effective connections between banks and consumers. Besides, the availability of online transactions makes a substantial contribution to the increase in online transactions.

The advantages for customers:

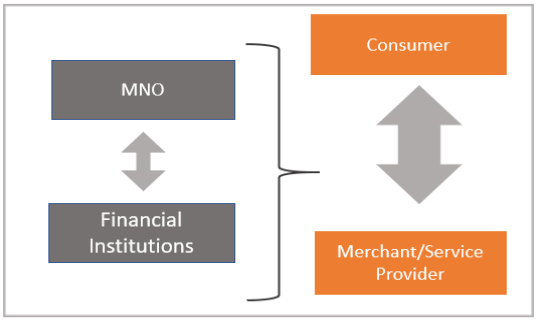
- Simplicity in connection (sign-in, sign up)
- Online balance control
- Security control
- Online payment possibilities.

The availability of financial services through mobile simplifies customers' life by avoiding additional bureaucracy. Consumers can easily connect their accounts check balance and make payment or transactions though mobile at any time, besides, consumer getting online information in time and can control account information by avoiding any fraud action time. Mobile network channels are considered more secured and encrypted rather than public internet and being protected from man-in-the-middle attacks. (Mobile Operators and Fintech, 2017).

However, considering the involvement and characteristics of the operation system the contribution of MNO`s in mobile financial services can be divided into 2 parts

Collaboration Model

Figure.25. Collaboration Model



The collaboration model is used as a new value proposition for both business environments, and mobile network operators with financial institutions maintain the transaction between consumer and merchant or service providers. Both MNO and financial institutions can benefit from this partnership by reinforcing their strong side. Mobile operator's contribution contains providing communication infrastructure while financial institutions control safety transactions (Makendahl & Andersson, 2010)

Operator Centric Model.

In operator centric model, mobile operators are comparably independent in the maintenance of mobile payments. Mobile network operators install the application and perform transactions through operators' billing infrastructure.

Figure.27 Operator Centric Model

The customer makes transactions through application and transactions delivered to the merchant through the operator`s network, and MNO deducts the fee from the customer`s balance or adds to monthly bill amount.

The collaborative model is applied in developed countries, where mobile network penetration and financial intuition accessibility are high. Operator centric model is used in emerging markets, where mobile network penetration is comparably high, but most of the population does not have access to financial institutions and mobile operators partially replace financial institutions functions. (Trends in Telecommunication Reforms, 2014)

MFS In Emerging Markets.

The involvement of mobile financial business in the mobile network operator's portfolio occurred in the developing countries. The intense penetration of mobile phones and the absence of the financial industry infrastructure created new possibilities for establishing new business models. The mobile industry infrastructure has rapidly integrated into the developing markets and brought a considerable increase in the subscription. Whereas, at the beginning of the 2000s ,more than 2,5 billion people in developing countries did not have access to financial services. MFS started actively developing in the emerging markets, and in Y 2012 the 70% of mobile financial service market was controlled by mobile network operators

Table.8 MFS in developing world

Region	Country	MNO	Service
Sub-Sahara Africa	**11 Countries**	**Safaricom Vodafone**	**M-Pesa**
Asia	**Philippines**	**Smart**	**Smart Money**
	Pakistan	**Telenor**	**Easypaisa**

The launch of M-Pesa service by Kenyan mobile operators Safaricom in and Vodafone Y 2007 has started the interference of mobile operators to the financial business. It was an independent service by the mobile operator without government intervention. Within a short period, M-Pesa obtained the 16 million clients, and in Y2019 the total revenue from M-Pesa made 31.2 % of the total company revenue. (Mirri, 2019)

Nowadays, Vodafone M-Pesa has spread across the 11 countries and reached 19.9 million users within the African region. (Mobile Money, 2015). Besides Vodacom group plans to establish a mobile money platform and extend their footprint to other African countries. (Donkin C. , Vodacom poised to widen m-Pesa availability, 2019)

Meanwhile, sub-Saharan African operator's mobile financial business models were acquired by the Asian region as well. Another successful mobile payment model Smart Money was launched in Y 2001 by Smart

Communications Philippines. The number of Smart money users reached 10 million, Smart enables money transferring to another Smart money account, pay prepaid loads, and proceed to other financial transactions. In Y 2009, the second large operator of Pakistan Telenor has launched Easypaisa through cooperation Tameer Microfinance Bank. Telenor is one of the leading operators who sustains (know your customer) KYC requirements and enables transaction without bank account existence. In order to proceed payment through Easypaisa customers only need Telenor SIM card and there no need for bank account and cashing in and out can be executed in company agent locations. The service also contains the possibilities of paying bills, money transfers, and airtime top-ups. (Financial Sector Development in Central and West, 2015).

In the last year, Megafon Russian mobile operator also launched a mobile payment service, which enables to use of the mobile phone as a payment tool. Now Megafon customers are able to do shopping directly via Apple Pay, Samsung Pay, and Google pay by using the mobile phone account. They need only create personal virtual MasterCard in the Megafon website without any additional bureaucratic requirements. Megafon confirmed that now 20% of the customers joined this service and actively made payment through Megafon Bank application. (The Mobile Economy Russia and CIS Region, 2018)

MFS in Developed world

Due to the developing economic situation and dynamics, technological development, mobile financial service rapidly integrated into the developed countries financial industry landscape. The substantial penetration of mobile broadband strength the widespread adoption of mobile banking and other mobile payment solutions. Google wallet, Pay-Pal, Google pay, and Apple pay rapidly spread across the developed market and sustained the growing user base. The availability of contactless payment through mobile phones encouraged MFS penetration.

Nevertheless, due to the existence of evolving infrastructure, mobile operators are not independently involved in mobile financial service implementations. However, in the period of advanced technologic development, mobile operators argue the new ways for value prepositions. The combined services create new possibilities beyond traditional service and endorse the movement to the new directions. (Rosingh, Seale, & Osborn, 2001).

Despite the emerging world, mobile network operators do not proceed with financial services directly but conduct a collaborative partnership with financial institutions. Japan Mobile operator NTT Docomo Operator NTT Docomo joined Mobile Payment Alliance (MPA) together with Line app company and e-commerce giant. Three company will create a new application through the board number of merchants will be able to receive the cashless payments from registered partners. (Donkin C. , Mobile World Live, 2019), (From brand loyality to revenue stream for Telcos, 2019)

7.Methodology

7.1 Research Methodology and Research approach.

The purpose of this consultancy project is the consideration and assessment of advantages and disadvantages of a new value proposition and revenue stream for Azercell through the implementation of MFS and analysis of the consequent impact on the profitability and market share of the Company, taking into account the worldwide experience and existing market conditions.

In this chapter, the research methodology and the methods of collection of quantitative and qualitative data were reviewed.

Research methodology defined as “the science and philosophy behind the research”, is the profound and wide concept distinguishing from the research methods, as the latter refers to the ways of conducting and implementing research. (Adams, Khan, Raeside, & White, 2007). Meanwhile, according to Saunders, M., & Lewis, P., & Thornhill, A. (2009) tools and techniques of collecting and analyzing data define the research methods.

The general plan of the way of addressing the Research questions stated in the thesis, including precise objectives, derived from RQ, data collection sources, limitations faced within the research process (lack of access to information, time etc.), containing ethical issues as well is defined as Research Design. (Saunders, Lewis, & Thornhill, 2009). Moreover, according to Blumberg, Cooper, and Schindler (2011) research questions always determine the research design which shapes the data collection techniques and process, including methods of answering the formulated research questions. Hence, the research process should be launched from the identification of the research approach.

This particular research refers to the case study research strategy, being the tactic of conducting research involving analysis of a specific phenomenon determined by experience in real life environment and observation (Robson, 2002). This research, being the case of Azercell, reveals the opportunity of launching of a new service and analysis of various research techniques, such as internal data evaluations, participant observations, semi-structured and in-depth interviews and questionnaires.

As a clear theoretical position has been developed before the obtaining of information, the Deductive research approach is being applied. Hence, the research is started from the hypothesis and intent of analysis of possible consequences of implementation of the new service based on the process of collecting and exploring the data.

Furthermore, for this BCP, the population consists of both individuals with a middle level income using mobile devices for online payments and corporate entities involved in various sectors of the economy, as online payments are ubiquitous. However, the main focus is on the most digitalized financial sphere.

Meanwhile, Sample is referred to as a subgroup or subset of the population. The conclusions are drawn as a result of the sample, and later will be transferred into the population of interest (Sekaran, RESEARCH METHODS FOR BUSINESS. A Skill-Building Approach., 2003)

Moreover, using sampling instead of obtaining data from the entire population has a vast majority of advantages. Such as, fostered data collection process, decreased expenses, availability of population elements supporting the idea of sampling throughout the research process. Based on the practice, more reliable results are obtained by using sample (Sekaran & Bougie, Research methods for Business, 2010).

According to Palinkas et al. (2015), purposeful sampling is an extremely crucial aspect of the qualitative research methodology. In a nutshell, the sampling strategy should be developed as a logical extension of the research objectives. In other words, the sampling method should correspond to the overall purpose of the research and enhance it. Accordingly, the choice of the most suitable sampling strategy will largely increase the chances of retrieving meaningful insights and results to be reliable and generalizable. In general, it could be concluded that the qualitative methodology is a highly relevant method that correlates with the purposes of this research.

Furthermore, as the main purpose of the project is the implementation of mobile financial services in Azercell Telecom for generating new revenue stream, the customers' payment ability needs to be considered. Consequently, sample for this particular research is determined based on the various criteria:

- Potential customers registered on online payment sites
- Potential customers having plastic cards
- Potential customers between 18-45 years, who are more prone to online payments and willing to pay by using mobile devices
- Potential customers' approximate monthly average income

Sample analysis will provide company with the clear view about the approximate quantity of number of customers using mobile financial services.

7.2 Research Instruments and Tools. Data Collection.

The research approach being undertaken for this business consultancy project is combined, as both qualitative (non-statistical) and quantitative (statistical) tools of obtaining the data, such as, questionnaires, structured and semi-structured interviews and observations were utilized (Saunders, Lewis, & Thornhill, 2009).

Within the research process, multiple mixed research techniques have been used, as quantitative research is more useful for assessment of revenue and other metrics, while qualitative data was processed to evaluate the perception and attitude of customers and partners to a new service, including experience of other companies.

Considering the overall purpose of the consultancy project, which is to provide the stakeholders with sufficient information, so that they could decide whether to introduce mobile financial services in Azercell or not, large amounts of qualitative and quantitative data have been processed.

7.2.1 Qualitative Data Analysis

Qualitative research approach refers to a higher degree of subjective assessment of behavior, preferences, attitudes of interviewees, containing the insights of the researcher. Meanwhile, results are generated in non-quantitative form, which is not applicable for meticulous quantitative analysis (C.R. Kothari, Research Methodology. Methods and Techniques, 2004)

- ***Interviews***

The use of interviews contributes to the collection of valid and reliable data relevant to the research question(s) and objectives (M. Saunders, P. Lewis, A. Thornhill, Research Methods for business students, 5th edition, 2009, p. 318).

Within the research process semi-structured and non-standardized interviews have been conducted to obtain the data. The interview questions appropriate for the business research concept are characterized by the attached interview protocols - Appendix 1. The list of interviewees involves internal discussions with management of Azercell, representatives of the largest banks of Azerbaijan (Appendix 1) and online payment portals and other experts with profound business experience, such as CFO and other managing positions. Semi-structured interviews with the experts from the financial and telecommunication field, including banks, payment systems etc. have shed some light on the current situation on the market and demand for this particular product.

The choice of semi-structured interviews is based on the high degree of flexibility of both parties – interviewer and interviewee. This type of interviews provides the understanding of the most relevant and significant concepts from the interviewee's point of view, including interpretations of the current situation (Blumberg, Cooper, & Schindler, 2011).

Meanwhile, in-depth interviews were arranged with the representatives of management of Azercell to get valuable information on the subject and assess the internal environment of possible implementation of MFS among the services provided by Azercell, involving foreseeing and making efforts to predict unexpected threats and obstacles as well. Meanwhile, semi-structured interviews (both personal and via telephone) based on questionnaires with open-ended questions have been conducted with the companies providing online payment services, such as Golden Pay, Azericard, Easy Pay etc. to explore and understand the needs and benefits of the experience of customers in terms of online payments (Appendix 1).

7.2.2 Quantitative Data Analysis

Quantitative approach involves the generation of information in quantitative form suitable for rigorous quantitative analysis.

In terms of time horizon two main types of studies are defined: longitudinal (several points in time, the same sample and the same variables are examined) and cross-sectional (one point in time with different samples is considered, variables – new every time). In this particular research paper, longitudinal study has been applied based on that the same variables were analyzed within the durable period of time. The data of the preceding period was examined to define the trends and character of fluctuations in various metrics of revenue streams.

The environment of telecommunication and finance markets involving recent tendencies in customers' behavior has been evaluated. Moreover, change in revenue streams of Azercell has been analyzed to assess the potential MFS profits and expenditures for Azercell. Meanwhile, voice and SMS traffic trends compared to previous periods, the change of Azercell revenue obtained from additional services, particularly from value-added services the usage of data and respective profits, determination of potential customer base, clients' awareness about MFS and particular usage of MFS on the market (if any), predictions on the revenue in the near future have been under consideration for this particular project. The peculiar industry related quantitative data analysis metrics were implemented for understanding the usage and revenue correlation and bounding effects of traffic decline in the company profitability. The descriptive and diagnostic data analysis measurements assessed to project the future revenue contribution among services and determine the future perspectives for the company. For the evaluation of the primary quantitative data the following indicators were defined as the key measurement factors.

- The decrease of revenue from traditional communication tools.
- The usage and revenue metrics of Value-added services
- The forecast of the revenue in the nearest future.
- The evaluation of MFS deployment in Azercell product portfolio

Nevertheless, the internal data evaluation is not sufficient for the prediction of horizontal integration via mobile financial service implementation, therefore the customers` approach and their perception about the deployment of MFS were also measured through questionnaires.

- ***Questionnaires***

Questionnaires containing main information required for analysis have been distributed among young and middle-aged group of people Appendix.2, (Google Form, 2019)

7.2.3. Data collection process

Throughout the research process both primary and secondary data was collected.

Secondary data collection methods are highly significant for the research. These methods include the investigation of the public data and statistics, academic articles, analytical reports, books, journals, and research papers on the topic related to the purpose of the project. Therefore, the experience of other researchers and the evidence that they retrieved was also incorporated, while, observation of attitude of company management and shareholders plays a significant role and is an integral part of the complete

practical consultancy report. As secondary sources, the mobile telecom industry reports and financial market regulators, main world payment organizations and regulators of payment markets such as World Bank, Visa and Master Cards, world leading mobile operators providing mobile financial services have been reviewed.

Using secondary sources is one of the important directions in analyzing payments market, the behavior of customers and their preferences because it is crucial in determining future returns.

Primary data collection was conducted in forms of internal quantitative data measurements, interviews and questionnaires. By evaluation of primary numerical data and interviewing the top management of the company, sector specialists, government authorities, and other relevant stakeholders, the comprehensive understanding of the current state of the economy and the probability of the project's success, information have been obtained.

Moreover, the secondary data was collected from the local and foreign communication and financial markets. It included some internal information from the company and interviews with the banking experts, authorized persons of the various telecom companies in the local market. Due to the researcher's long-term involvement into telecommunication business (more than 15 years) and good relationships with a lot of partners both from local and foreign markets, the process of obtaining information was fostered and beneficial for the research.

Consequently, academic tools like SWOT analysis, Porter's five forces, and PEST were implemented to review the external and internal conditions and factors of telecommunication, finance and MFS areas, affecting the decision related to the implementation of the new product by Azercell. In addition, being the tools of industry and market analyses, they are valuable to analyze the recent trends in the telecom industry and to make competitive benchmarking, as Azercell needs to evaluate its position in comparison with competitors, to identify industry leadership performance targets of competitors planning to provide this new service to their customers. For instance, analyzing current situation in the market, problems, tendencies, and trends which can be influential for development online payments in Azerbaijan by using an empirical research has been the essential part of the research. Therefore, current research provides information about online payments industry in Azerbaijan, including:

- Current analysis of mobile financial services and future predictions for national market
- Review of the methods used by state authorities to stimulate the improvements in e-commerce market in the country
- Depiction of the latest trends in MFS around the globe, which can be used for implementation in company project

8. Theoretical Framework

The theoretical framework assists in realizing the theory of concern through various vital indicators in practical development. In this project, the theoretical framework enables to conceptualize the relevance of the study for the reinforcing of the horizontal expansion of Azercell Telecom revenue by defining the interconnection between crucial variables. The analyze of specific variables justifies the interrelation between variables and modification of the critical measurements through the period. Besides, the internal correlation, the implication of external factors to the vital revenue determinants was also characterized.

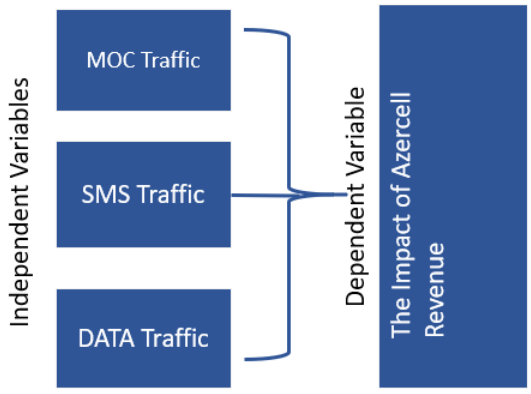
In the application of the theory on Azercell, the communication tools were assessed as independent and revenue defined as the dependent variable. Furthermore, the indirect enforcement of different factors to the substitution of the services and alteration of customer behavior were also conducted.

8.1 Correlation between Independent and Dependent Variables.

Traditionally the Voice and SMS used to be the leading revenue indicators and acquired the fundamental parts of the revenue proportion. However, in comparing with previous years, Azercell has also experienced the decline of Voice and SMS usage. The average annual decline of SMS usage in the last three years is 22%. Even though voice usage has not experienced a sharp reduction as SMS, but it is also on a steady decline, and it decreased by 6% and 2 % respectively in Y 2017 and 2018. In contrast with the decline of predominant revenue indicators, Data consumption expressed the positive changes in the last three years and the average annual growth rate is 60 %. The revenue as dependent variable directly impacted by the diminishing effect of independent variables. The average decline of SMS revenue in the last three years was 20% and simultaneously, together with traffic decline voice revenue reduced by 2% on average.

Nevertheless, with an increase of Data consumption, the Data revenue displays a substantial increase by 25% of annual average growth rate.

Figure.28. Theoretical Framework



Consequently, the mobile networks` global challenge, the substitution of traditional communication tools consumption inherits in Azercell usage as well. The revenue outlook of core services expresses the downward trend, and the substantial growth is seen in broadband penetration. In order to diminish the impact of service substitution and the influence of alternative communication tools, Azercell started to enlarge the product line through digital transformation. Recently obtained value-added services sustain the upward trend in the last three years. However, the provision to the new value streams was raised not only by the reduction of crucial revenue generators but also the evolution of the influencing factors. The services` substitution is being caused by factors, which constituted the efficient environment for the development of the value-added

services. In this research, actual factors for the development of the new revenue stream and particularly to the adoption of mobile financial services were evaluated.

8.2 Influencing Factors

The strategy of the company is being shifted by the evolution of high-advanced technology and by customer requirements. The combination of these key determinants designates the strategy of further development via enlarging horizons.

- Advanced Technologies

The mobile communication service technologies have experienced immense evolution through the acquisition of new dynamic peculiarities. The mobile communication has started with analog technology which had limited capacities and low speed of signaling transition. The exponential change in mobile communication occurred with the emergence of the Global System of Mobile communication (GSM). 2G technology constituted circuit-switched telephony and Universal Mobile Telecommunications System (UMTS) by providing the transmission of digital encrypted data and the resolution of text messaging and upload and download data speed by GPRS service. Nevertheless, the evolution of high data transmission became available with the progression of the third and fourth generation. The development of 4G enabled the transmission from circuit-switched service to IP telephony. Long Term Evolution (LTE) is a 4G wireless technology compose IP connectivity layer for all data, voice, messaging traffic transmission, the second layer Evolved Packet System (EPS) constitutes the communication procedures. (The Evolution of Mobile Internet, 2017)

Azercell has spent enormous resources and has covered 99.8% of the residential area of Azerbaijan. Besides, of the being first GSM operator in Azerbaijan, Azercell also put an immense effort for the development of high-speed technology deployment. Now Azercell is a leader in 3G and 4G coverage availability in the country and has the highest share of Mobile Broadband connection among mobile operators

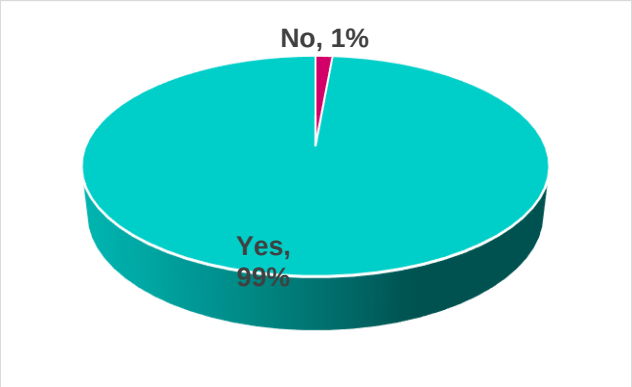
- Smartphone penetration

Together with the rapid technical evolution, the development of handset manufacturing also influenced the mobile network operators' capabilities. Smartphones became a common attribute of mobile communications. According to the ITU statistical data, the rapid growth of mobile communication in the last ten years was occurred due to smartphone proliferation. The fastest processors and advantageous characteristics help the smartphone to change the market overview by overtaking desktop technology and becoming mainstream devices. (Penwarden, 2017)

The core difference of smartphone from features phones that it has specifications of personal digital assistant (PDA), and the functionality of personal computer within access to the internet, personal email, document viewing, task and contact management. Besides the basic features' handset developers

continuously upgrading and adding new possibilities to the device. (The Emergence of the Smartphone, 2007) Modern smartphones are produced with cameras, music players, GPS navigation software, and replace a bunch of different devices. Also, some smartphones have NFC and MST configuration and are actively used in mobile payment services. The availability of digital services enforces the smartphone position, and the worldwide smartphone subscription reached 5 billion (GSMA, Intellegence, 2018)

Figure.29 Smartphone users from survey respondents



The smartphone penetration is gradually increasing in Azerbaijan as well. The annual average growth in the last three years is 39%, while the share of features phone is declining. Meanwhile, smartphone penetration among Azercell subscribers in the last three years reached 50% and continues a gradual increase. Eventually, half of Azercell subscribers are smartphone users. Besides, the assumption was confirmed with the survey results, as 99% of the respondents were smartphone users.

- Shift in customer behavior

In the age of technology, the hectic dynamic of technical evolution influenced customer communication habits. The proliferation of social communication applications and video and music streaming modify communication behavior and create embedded new lifestyle performance. According to the ITU Y 2017 report, 94% of the youth population in developed countries preferred online interaction in business and personal life. (ICT facts and figures, 2017)

The content consumption is increasing gradually. Customers are using multimedia entertainment and communication services online. Video streaming and music streaming usage are increasing. People prefer to have individual access through their mobile rather than watching TV broadcast. The mobile device is acquiring new features and for the contemporary customer is not satisfied with predominant factors but also consider the mobile device as the new paradigm for the implementation of different functions. Based on Huawei" The future of Mobile broadband "report in Y 2016 people on average spent 2 hours on mobile devices and in Y 2025 it is forecasted to reach 5.5 hours a day. The emergence of online services in a business environment acquired new characteristics to the mobile devices. At the same time, the rising demand for additional features facilitate mobile internet usage and directly influence the data consumption rise.

In addition to the entertainment functions, now the mobile device is used for mobile payment services as well. The availability of online and mobile payment functions simplifies the financial transactions, and customers prefer to proceed the payment without attending payment points. (The future of Mobile Broadband, 2017)

8.3 New revenue excellence for Mobile Operators.

Mobile operators consider the availability of advanced technologies and modified customer behavior as new innovative strategies for overcoming the market saturation though obtaining new revenue streams beyond the core business.

The worldwide trend urges mobile operators to alter the mindset and constitute the strategies for growth. Most of the mobile operators enter the content area by starting cooperation with OTT content providers and offer combined services. In this case, mobile operators try to mitigate the cannibalization of mobile communication services by OTT services through cooperation.

Some Mobile operators chase new challenges in different business environments as well. Mobile operators started to cooperate with the financial institutions for offering new mobile financial services. Mobile financial services simplify the transactions for customers by eliminating additional bureaucratic actions. (The Connected Possibilities of Mobile Broadband, 2012)

In this research, the possibility of implementation of MFS in Azercell through cooperation with the Bank is evaluated by considering the benefits from customers' and Azercell prospects. Considering that, the financial literacy level and financial service penetration are appropriate, the new MFS service can be favorable for both entities and the mobile broadband, and smartphone penetration can justify the new value proposition for Azercell. (GSMA, Intellegence, 2018)

9. Findings

9.1 Introduction.

The scope of the project constitutes the evaluation of the concept via various prospects. The previous chapters identified indirect and direct bounding factors, and the industry promptitude to the extension of mobile financial services. Additionally, the global mobile telecom industry challenges and MNOs` reactions to the contemporary market demands were also considered. For better understanding, the peculiar market analysis proceeded for estimation of the market readiness to the MFS penetration. However, in order to make the precise judgment for the deployment of mobile financial services in Azercell, the definite company-related evaluations were required. Therefore, for determining the necessity and customer demands, the quantitative and qualitative analysis was conducted.

9.2 Qualitative Data Analysis

Numerous semi-structured interviews and discussions with experts from the leading banks of Azerbaijan, payment processing center, online payments portals and internal interviews with Azercell professionals have been conducted to address the research questions stated in the BCP.

Interview protocols contained different questions depending on distinguished aspects aimed at obtaining the related information from the banking industry and payment processing companies.

9.2.1 External Interviews

Most experts had similar views on some questions, such as the favorable legal and business environment for digital transformation, acknowledgment of positive trend and strengthened competition in the financial market, while had different views on some of the other topics that will be discussed below.

Representatives of top management of the following Banks, payment systems, and payment processing center from the Azerbaijan market have agreed to meet and share their knowledge and expertise in this field.

Interviews with payment portals and card processing centers:

- General Manager of “Golden Pay” (Hesab.az)
- Head of “Easypay” LLC
- Business Development Director of “Azericard” processing center
- Director of “SmartPay”
- CEO of “Modenis” LLC (“E-manat” payment system)

All interviewees underlined the positive tendency in the online payments’ field and growing opportunities to extend the business. For instance, **“Easypay”** offering all types of payments, such as utilities (58%), mobile (34%) and governmental payments (3%), insurance fees etc, plans to extend the range of available services to compulsory motor insurance premium payments and AzeriGaz payments. Market share of “Easypay” constitutes around 20%. Currently, the sophisticated mobile application is being developed by “Easypay” and number of self-service payment terminals is steadily increasing in order to enhance the convenience and quality of the provided services.

Meanwhile, CEO of **“Golden Pay”** payment portal, Company possessing the largest market share exceeding 50% of all online payments’ market in Azerbaijan, emphasized a fierce competition on the market due to rocketed interest of Banks to online payments in Azerbaijan that fosters the appropriate measures fulfilled in this direction. The highest shares among various types of payments belong to utilities and telecommunication categories.

The range of services provided is similar to the competitors’ one, however, tickets for cultural events are also available through the platform.

According to information received from **“Smartpay”,** 94% of all payments made through the platform refers to the registration of mobile devices, 3% belongs to mobile payments, and 3% to other categories. Director of the Company emphasized the increasing financial literacy of consumers and promising opportunities for business expansion.

“Modenis” company possesses approximately 25% share of the online payments market. The split of services’ shares is similar to other payment portals, and customers mostly use the online payment system for utilities, telecommunication, internet payments. CEO of the company underlines the growing interest of

consumers to online payments, nevertheless, the prevalence of cash payments is expected for the next few years in Azerbaijan. “Modenis” does not possess a mobile application but is going to launch it in the nearest future to meet the clients’ expectations.

One of the managers of the largest card processing company in Azerbaijan, **“Azericard”,** also considers the huge potential of fast-developing Azerbaijan financial market and emphasized the growing competition on the market. The major part of payments made via the processing center refers to loans and telecommunication payments. Nevertheless, cash payments’ position is still very strong nowadays. According to their experience, the financial literacy level of customers increases steadily, and they are potentially ready for a greater digitalization of the services.

Interviews with representatives of management of Banks:

- HR manager of “Express Bank”
- Director of Customer Service department of “International Bank of Azerbaijan” (“IBA”)
- First Deputy CEO, “Kapital Bank”
- Head of settlement division, “Xalq Bank”
- Head of International Financial Institutions Department of “Bank Respublika”
- Managers of middle level (various departments) of “Pasha Bank”

According to information provided by the banking experts it is hard to estimate the position of each Bank in terms of B2B and B2C due to the lack of market statistics about all the participants. As per information provided by the Director of Customer Service department of the largest bank of Azerbaijan, “**IBA”**, not all banks declare information on the volumes of interbank settlements. Based on the obtained information 26% of all legal entities in Azerbaijan are customers of “IBA”. Moreover, being the largest bank institution, and positioning itself as a universal bank institution, historically “IBA” was stronger in corporate clients` segment rather than retail banking. Availability of large payroll projects with its corporate clients and pension bulk payments processing allow the bank to develop its consumers lending and arrange for new retail products. Furthermore, bank’s representatives acknowledge the strengthening impact of online payment systems on the bank’s performance. In order to mitigate this, influence the Bank constantly fulfills measures to develop merchant acquiring clients` network, which also includes largest local online payments providers, to improve and constantly upgrade of IBA’s own online banking platforms (for instance, IBAm Mobile Banking), to expand our partnership with global premium payment services (American Express, Diners Club, etc.). For some of them IBA is a sole and exclusive local partner. Also, “IBA” is a main banker for ASAN and E.GOV governmental portals. “IBA” constantly improves relationship and payment terminal network, expands salary and other payroll projects with large state and private enterprises, pension fund and other massive payroll card holders and constantly upgrade card products with full range of online capabilities within merchants and ATM network.

Meanwhile, “**Kapital Bank”** is considered as the leading retail Bank in Azerbaijan and as was stated by the interviewee, B2B is not the priority segment for the entity, but share of B2C is increasing quite fast.

For instance, according to received information, customers of "**Xalq Bank"** mostly prefer to pay loans by cashless methods. Moreover, clients of "Xalq bank" and **Respublika Bank** mostly fulfill non-cash transactions. While, according to information received from "Kapital Bank", volume of cashless transactions increased twofold in comparison with last year, nevertheless, cash transactions still prevail among their customers. Meanwhile, representatives from "**Express bank"** and "Kapital Bank" have not underlined any preferred payment tool, banks' customers are using various payment tools: online (via internet and mobile banking application), cash terminals, by cash at the office.

Moreover, all interviewed experts agreed on the vast importance of mobile banking applications and according to provided information, all banks possess App for payments and are constantly improving and working on it for easier and more convenient use by the Clients, such as IBAm, Express Pay etc.

Furthermore, interviewed experts of banks declared that contactless payment tools are offered to their customers.

For instance, **Bank Respublika** offers PayPass stickers instead of traditional bank card, that can be attached to any item like a mobile device, bag etc.

Meanwhile, according to information provided by managers of various departments of **Pasha Bank** in recent years Bank has been increasing penetration in SME segment where the ratio cash/non-cash transactions are quite different than in corporate segment. For both segments, bank offers wide product range in respect of non-cash transactional business with innovative components such as corporate cards, POS acquiring and Letters of guarantee which enable to make settlements cheaper, quick and suitable. Also, the process of constant investment aimed at improving the user experience of the clients: the interface has been enhanced, and the number of products available through the new modern e-banking solution has expanded. It led to the growth of a share of the client's transactions executed in a digital way, which is part of Bank's strategy. Regarding the types of transactions in current accounts: cash constitutes only 20 % among incoming transactions in CIB and 27 % in SME segment. Moreover, the major share of customers pays credits online (Internet Banking service, Milliön payment terminals, etc), while, partially cash payments are observed in respect of agricultural payments. The Mobile App was launched by Pasha Bank in 2016 – all kinds of payments can be executed, including parking payments. For the near future, it is planned to apply an electronic signature for customers not to waste time coming to the office.
Pasha Bank was the first Bank in Azerbaijan, introducing the system of acquiring and issuing the contactless payment cards (Visa and Mastercard). Moreover, 96% of payments made by corporate, commercial, and SME customers are realized online.
.

In a nutshell, all interviewed banking experts agreed that financial literacy of customers is growing steadily, that is reflected by the increasing number of consumers using online payments by mobile applications and web platforms. Moreover, positive trends are observed on the financial market of Azerbaijan due to the

recent institutional changes, such as reforms in tax legislation triggering cashless payments, increasing transparency in business, restructuring of the assets and liabilities of the banks and growing diversification in terms of concentration of corporate and retail business. Experts admitted that the volume of online transactions increased significantly. However, some experts consider that growth of digitalization is caused by the increased sophistication level of data exchange tools rather than general digitalization level as a result of conducted reforms.

Meanwhile, centralized databases for banks, such as reporting systems, tax, and custom systems, are accessible by banks and are updated online. Access to the credit scoring system plays a crucial role in the performance of banking institutes.

9.2.2. Internal Interviews.

In addition to the external interviews with a leading bank and financial institutions management, the peculiar in-depth interviews and focus group discussions were held among Azercell directors and mid-level management. The principal objective of these discussions is to assess the market conditions and define the further integration strategy of the company as a response to aggressive competition and market saturation. During the discussion, the meticulous evaluation of the last three years of financial metrics and the influencing factors to the company positions were evaluated. It was ubiquitously agreed that despite restraining leading position Azercell position mitigated due to the aggressive competitions. According to the external market analyses, Azercell is considered as the best cellular operator due to the flawless network coverage. However, in order to keep the leading position, the high network quality is not enough, and Azercell must be the leading operator in term of innovations. The new market strategy of Azercell is to build up the digitalized services for the customers, and in line with this outline, Azercell must enlarge the mobile value-added services range. The development of the new mobile financial service is accepted positively. After getting the confirmation of management, the individual in-depth interviews and group meetings were held with Finance, Commercial, and Technical team management. The commercial team management considered the new MFS as a new trigger for customer retention, and in a longer perspective, the company can use this as add-on service in the campaign products and implement different segmented offers. Considering the current positive collaboration with financial institutions company finance team sustained strengthening the productive cooperation with banks offered to proceed the project development in the shortest time.

During in in-depts interviews with Technical management, the company technical capabilities for further development the 4G coverage expansion stage and company promptitude for the system upgrades were discussed. It was defined that the implementation of MFS will not require any additional system upgrade, and the company can handle it with internal resources, and no additional OPEX costs will be required. The company can add the required configuration in the billing system and proceed the impeccable the data interchange with bank technical system.

Table.9 Internal Interview

Name	Position	Department
Mr. Tendzegolskis, T	Chief Commercial Officer	Finance
Mr. Genov, K	Consumer Unit Business Director	Commercial Team
Mrs.Yildiz, M	Consumer Unit Business Consultant	Commercial Team
Mrs.Agalarova, S	Product development and management section manager	Commercial Team
Mrs.Tagizadeh,N, N,	Digitalization and New services Section Manager	Commercial Team
Mr. Hamidov, M	Network Configuration Director	Technical Team
Mr. Quliev, P	Billing and IT infrastructure development Director	Technical Team
Mr. Mammadov. E	New Services & Project Development Manager	Technical Team

9.3. Quantitative Data Analysis

Quantitative data analyses assist in summarizing the numerical data though different angles by using various measurement patterns. For the assessment of this project relevance to the market dynamics, the compatible numerical data were collected and investigated through a scale of values. The collected data was infiltrated and interpreted for the evaluation of the market outlook and company perspective for future productivity. The diverse quantitative data analysis techniques were implied to elucidate the time-period changes in Azercell revenue measurements and the requirement of the new value preposition enforcement. Two sorts of Quantitative analysis techniques were applied for the estimation appropriability of the mobile financial services in Azercell product range.

9.3.1 Questionnaires.

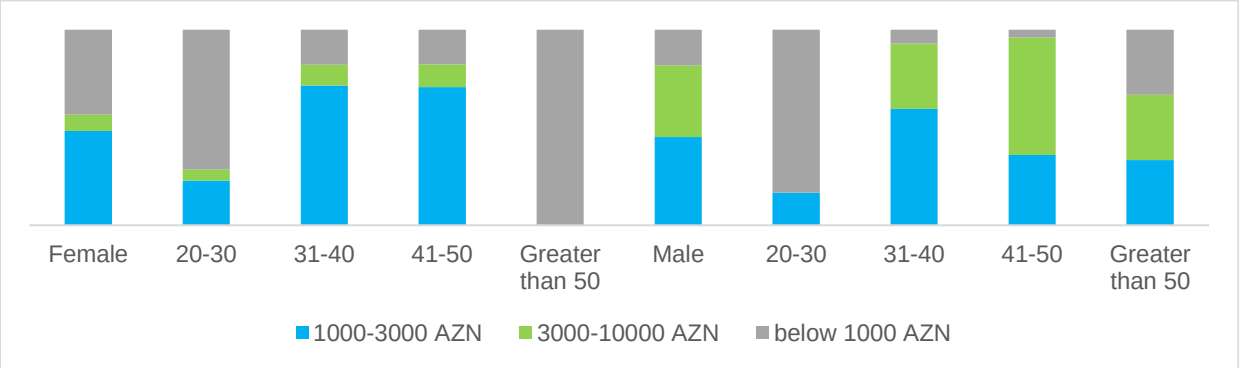
The self-administered online questionnaires were held through the Google browser in July 2019 among 214 people. The objective of the survey is to define the financial inclusion level among consumers and understand the prerequisite mobile financial services integrations. The questions explicated the level of penetration of traditional and mobile financial services consumptions and what services are more preferred by consumers. The questionnaires also assisted in identifying the customer intentions toward the mobile financial service and predict the consumer segment for the expected service. In addition to determining the financial services insight, the different indirect affected factors were also considered. The survey also helped to define the best bank from the perspective of the service and customer orientation in Azerbaijan.

9.3.2.The Questionnaires Outcome.

The questionnaires contain 20 questions which divided into two parts. The first part explicated the demographic profile of consumers, their income level, and marital status. It also helped to specify customers` preference among mobile operators. 145 people from respondents are Azercell subscribers, whereas 19 people use two sim cards and choose Azercell and other mobile operators. Overall, the number of Azercell customers is 165 people, and the utmost attention looked out from their response.

50.3 % of respondent were female, and 49.7 % of respondents were male. 96% of the respondents are at the 20-50 age range. The significant proportion of respondents` income is up to 3000 AZN and the gender distribution of monthly income in favor of males. 84% of the respondents are full-time employers, and only 12% of respondents are unemployed.

Figure.30 The demographic profile of Azercell customers



The second part of questionnaires contains detailed information of financial inclusion indicators among Azercell customers. Furthermore, many responses formulated by the multiple-choice responses, and in some cases, respondents choose several options. In order to get the summarized outline, the responses were consolidated by the key objectives. 42% of Azercell customers have several bank accounts in different banks, and 33% of customers use only salary bank accounts. 57 % of customers cover the disbursements of mobile, online and pos-terminal via cards, while 25% also covering mobile and online expenditures use plastic cards for cash-out also. Another two questions of the survey revealed the preferable payment tools for mobile bills and utility expenses. 99 of customers pay all mobile bill and utility costs via online payment portals, while 87 of them use mobile applications.

Meanwhile, Hesab.az and Azericard the most functional payment portals, as 51% and 22% selected them respectively. In addition to defining the financial service inclusion the fundamental principle of the questionnaires to detect the customer willingness to cover all expenditures, such as a mobile bill, utility expenses, and other service and good purchase via mobile application as part of mobile operator service. The 63 expressed willingness and specified it as useful service, and 44 respondents designated it for only micro-payments by keeping it limited up 50 AZN expenses. Consistently the next question was asked to delineate the service structure and consumption features. Customers were asked whether they would accept to be charged for this service. The respondents gave two contradicted feedback. The 86 claimed to have a service free of charge, whereas 81 affirmed readiness to pay the small fee for the service.

Furthermore, another key objective of the survey to define the trust level of the customers to their mobile operator or bank, and this response gave a positive outcome. 42% of respondents expressed higher confidence in the Azercell and banks. The 18% and 16% selected only Azercell or bank correspondingly as reliance point, and only 24% stated mistrust to both entities.

Figure.31 The bank account availability and plastic card usage

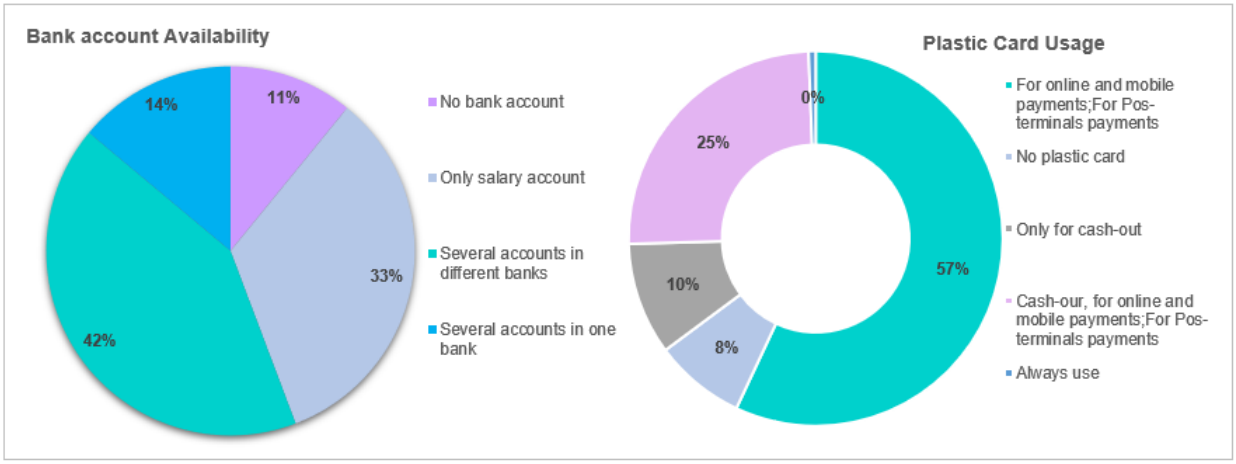


Figure.32 The payment tools preference in mobile phone bills and utility consumptions.

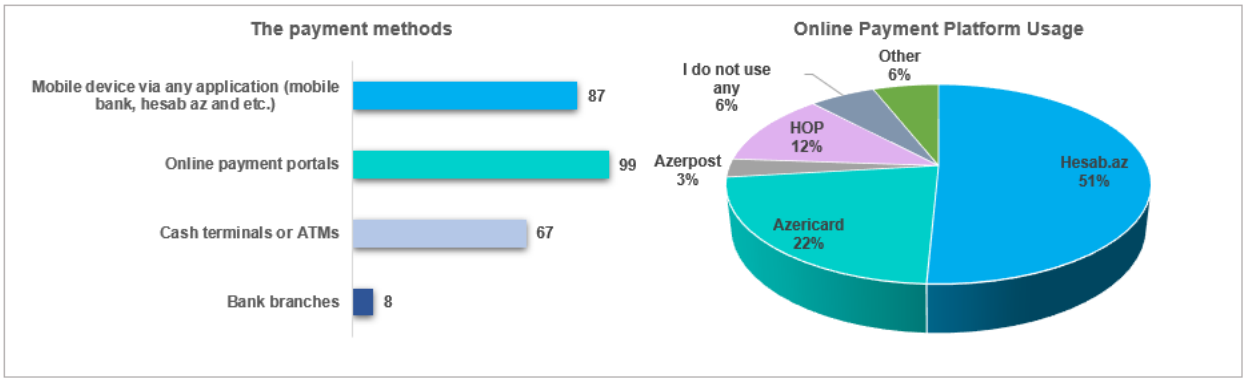


Figure.33 The possibility of payments from your mobile number balance directly.

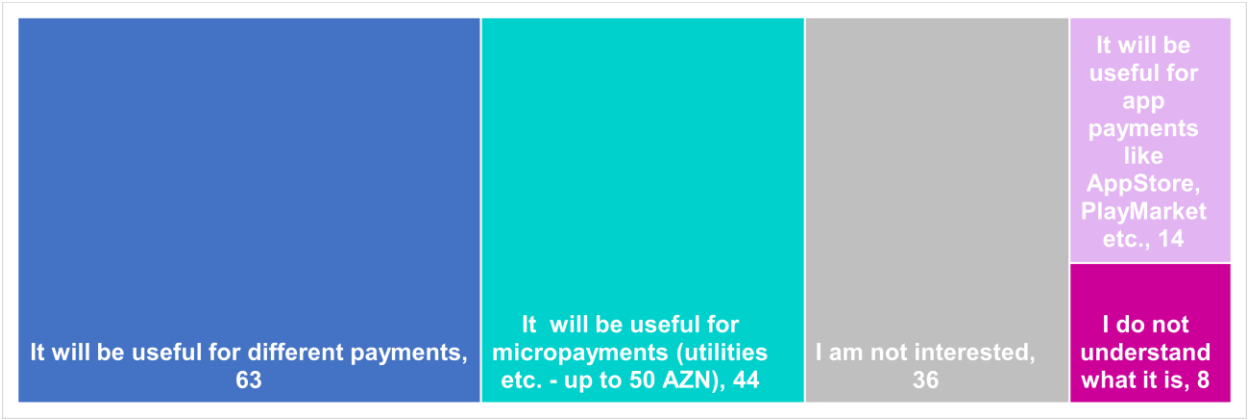
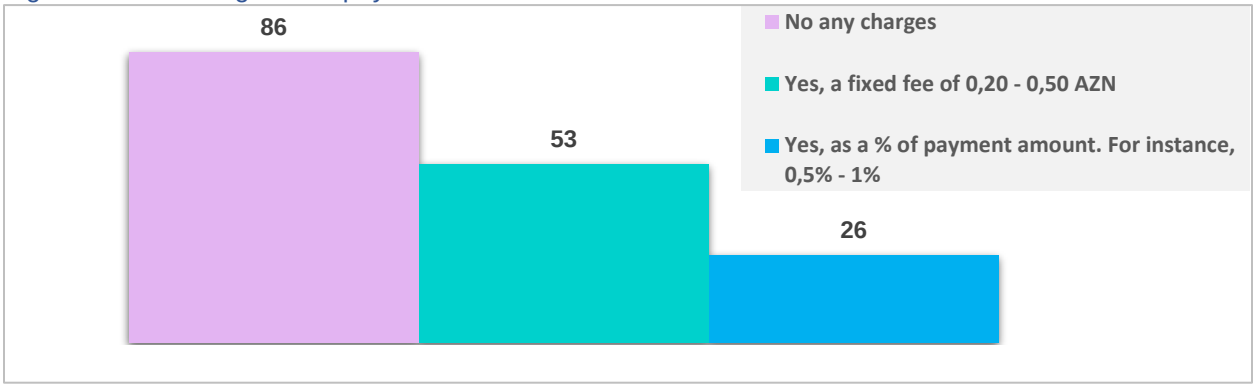


Figure.34 The willingness to pay for the service



9.3.3 The internal data analysis.

The evaluation of survey results gave a comprehensive overview. However, for the assessment company conditions, the primary numerical data statistics were measured through data analysis techniques, and the particular piece of primary data analyzed and interpreted through critical thinking by determining the correlation among variables. The measurement of accustomed communication tools consumptions through definite time assists the defining the prospects of the company. The historical and contemporary statistical data were evaluated by descriptive and diagnostic data analytics techniques, while the predictive analysis was used for the projection of the communication tool figures changes in the nearest future.

9.3.4 Descriptive analysis

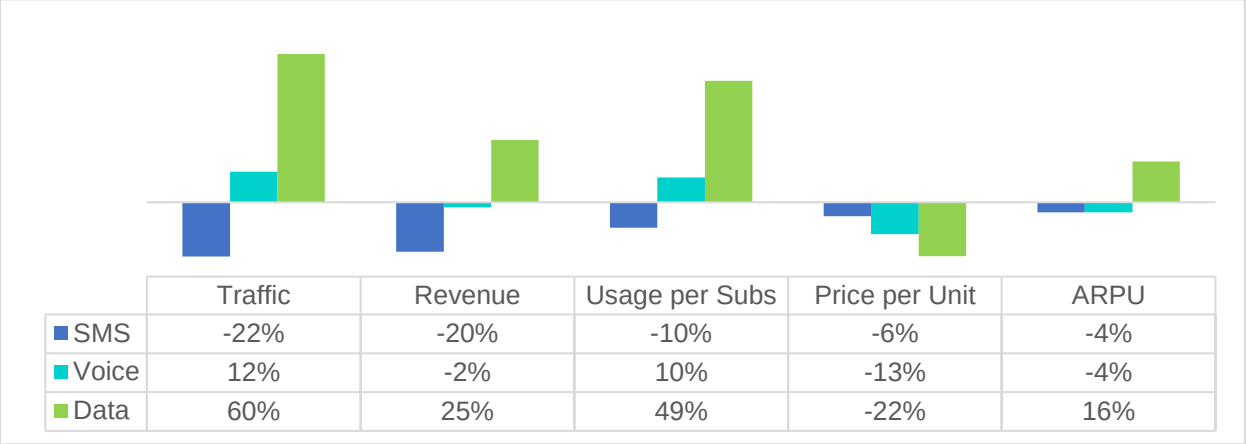
The descriptive-analytical tool was implemented for understanding the occurred alteration in the consumption of communication tools for the period 2016-2019. For the elimination, any discrepancies the first Quarter and second Quarter data were matched and compared correspondingly. The data was evaluated through relevant data metrics, and together with traffic and data figures, the price per min and average per user indicators were analyzed for each service. The outcome of the four years was consolidated under the compound annual growth rate. According to the four-year data comparison, the SMS service displayed a downward trend in all indicators. The traffic and revenue declined evenly by 22% and 20% respectively. At the same time, the reduction of price per SMS by 6% did not enhance traffic consumption. The usage per subscriber and ARPU diminished by 10% and 4%. Apparently, the global SMS usage decline and revenue reduction are relevant to Azercell as well.

In comparison with SMS, the Voice CAGR for the four years expressed the different outcomes. Despite the 2% revenue decrease, the voice traffic expressed the annual growth by 12%. However, the reduction of voice cost for the subscriber by 13% sustained the usage increase by 10%. Presumably, the airtime communication tool, regardless of all fluctuations preserves the position in Azercell, and the company can sustain airtime traffic through different marketing strategies.

In contrast to SMS and Voice, consumption Data service demonstrated the upward trend in all metrics. In the last four years, the traffic and revenue increase by CAGR is 60% and 25% respectively. Besides, 22%

price reduction enhanced the traffic consumption and usage raised by 49%. At the same time, the average revenue per customer increased by 16%.

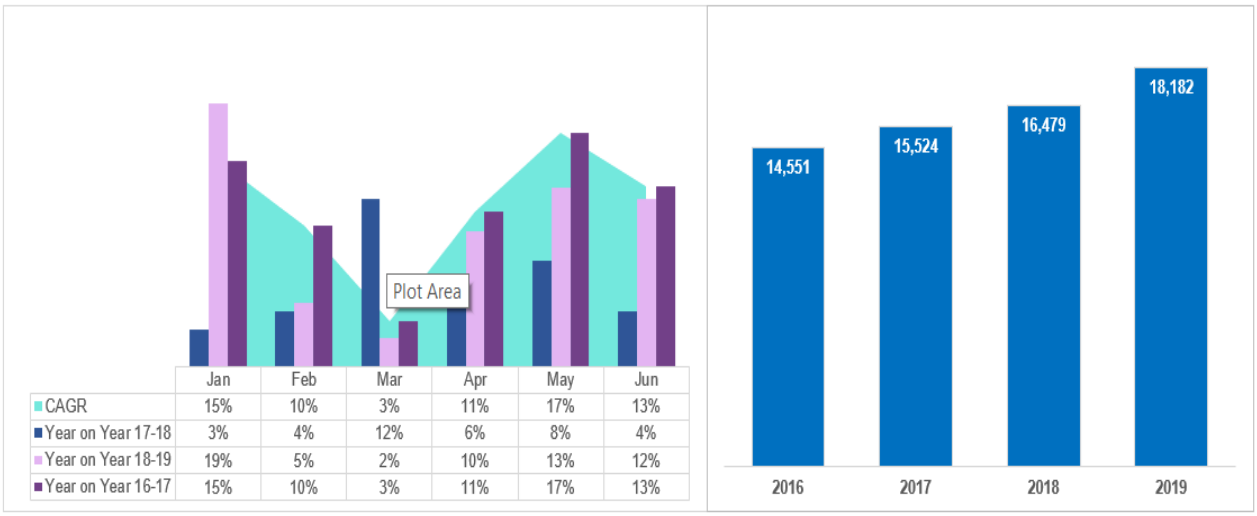
Figure.35 The CAGR rate per service since 2016-2019 (Jan-June).



	Traffic	Revenue	Usage per Subs	Price per Unit	ARPU
SMS	-22%	-20%	-10%	-6%	-4%
Voice	12%	-2%	10%	-13%	-4%
Data	60%	25%	49%	-22%	16%

Azercell also experienced the SMS and Voice consumption decline, and Data traffic is substituting the traditional communication tools. The company strategy and projection for the revenue sustainability contains enhancement data usage and deployment the data-driven service penetration.

Figure.36 VAS Revenue Metrics since 2016-2019 (Jan-June)



	Jan	Feb	Mar	Apr	May	Jun
CAGR	15%	10%	3%	11%	17%	13%
Year on Year 17-18	3%	4%	12%	6%	8%	4%
Year on Year 18-19	19%	5%	2%	10%	13%	12%
Year on Year 16-17	15%	10%	3%	11%	17%	13%

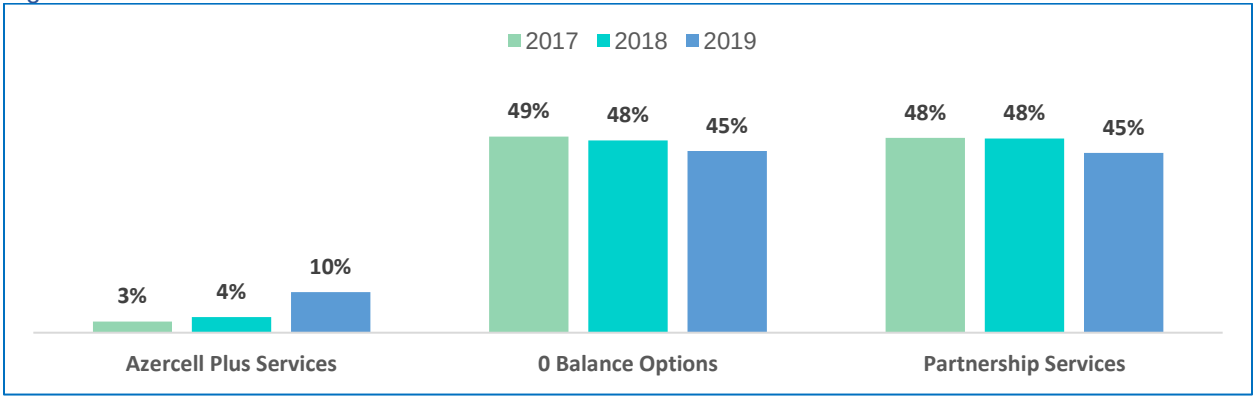
Along with Data revenue increase, the Value-Added services revenue also shows positive upshot. The same time frame was applied for the evaluation of VAS revenue results. The different VAS services are being provided by Azercell and considering that the majority of VAS revenue aggregators are comparably new in Azercell, the cumulative revenue was evaluated by comparing outputs of the month over months figures. In comparing with the previous year, the annual growth in Y 2017 and Y 2018 was 6% and 7% respectively, whereas in the Y 2019 the revenue increased by 10%. Overall CAGR rate was positive ,and significant raise expressed in the Y 2019. The following detailed evaluation of VAS services revealed the

meticulous changes in the revenue streams of Azercell. According to the three years` figure comparison, the primary revenue was being generated by Zero Balance Option services and from the third-party partnership services. The Azercell plus services, such as Zvooq (Music) and Bookmate, had the lowest proportion. However, within a time period, the Azercell Plus Services revenue is steadily increasing while other VAS service revenue is continuously diminishing. The addition of the Mobile TV and Mobile Cinema services in the Y 2019 enhanced the VAS revenue growth and Azercell Plus revenue increased by 10%. Besides the number of users for Bookmate, Zvooq and Entertainment services displayed a substantial increase in Y 2018 and Y2019 in comparison with the previous year. Nevertheless, the Mobile TV and Mobile Cinema have launched in the Y 2019 but generated significant revenue.

Table.10 Value-Added Service Overview 2017-2019 Jan-June period (in thousands)

	2017	2018	2019
Azercell Plus Services	**₼ 427**	**₼ 641**	**₼ 1,837**
Bookmate	₼ 310	₼ 365	₼ 428
Zvooq	₼ 1	₼ 78	₼ 575
Entertainment	₼ 116	₼ 199	₼ 222
Mobile TV	₼ 0	₼ 0	₼ 280
Mobile Cinema	₼ 0	₼ 0	₼ 331
0 Balance Options	**₼ 7,576**	**₼ 7,878**	**₼ 8,218**
Partnership Services	**₼ 7,522**	**₼ 7,959**	**₼ 8,127**
Total	**₼ 15,525**	**₼ 16,479**	**₼ 18,182**

Figure.37 Value-Added Service Metrics 2017-2019 Jan-June



Consequently, together with Data revenue, the VAS service revenue also demonstrates the ongoing increase tendency. Meanwhile, the SMS revenue, especially the person to person traffic, is gradually eliminating due to the different factors. The reason for the substitution of traditional services with Data usage and value-added service revenue growth and market penetration was evaluated in diagnostic analyses.

9.3.5 Diagnostic analysis.

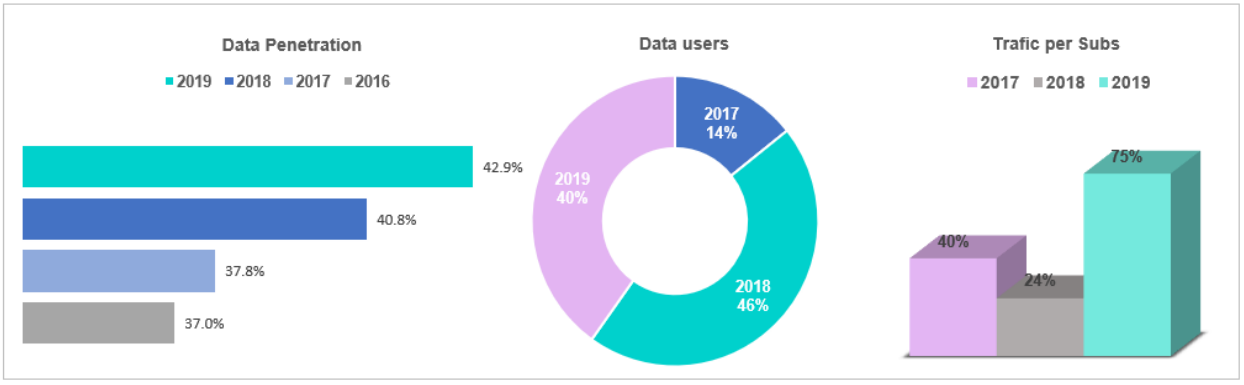
The decline of text messaging and airtime revenue can be explained with the ongoing upward data usage trend. With the integration of high-speed, advanced technology and smartphone penetration components influence the consumer`s communication traditions and shift their preference toward innovative communication tools. The worldwide trend is applicable to Azerbaijan mobile market industry as well.

Besides of traffic and revenue figures the other indicators of data service were also taken into account for four-year data evaluation. The data penetration displayed the ascending propensity in the last four years, and in Y 2019, the penetration rate reached 43%. At the same time, the number of data users also raised by 10% and 9% in Y2018 and Y2019 respectively. Meanwhile, subscriber's preference changed in favor of data service, whereas the traffic from unique subscriber expressed 75% of the substantial increase in Y2019.

Table.11 Data service metrics since 2016-2019 (Jan-Jun)

Period	Data Penetration	Data users in thousands	Traffic per Subs
2016	37.0%	9823	911
2017	37.8%	1013.3	1275
2018	40.8%	1115.4	1576
2019	42.9%	1214.3	2752

Figure.38 Data service metrics since 2016-2019 (Jan-Jun)



The enhancement of the data usage induced by the expansion of 3G and 4G networks. The number of unique subscribers using mobile internet within the country reached 62%. The extension of mobile broadband boosted the data consumptions in the last three years. According to the GSMA Intelligence data, the 3G and 4G connections average annual growth rate (AAGR) within the country is 7% and 75% correspondingly. (GSMA Intelligence Data, 2019) At the same time, Azercell persists the ongoing upward trend in all mobile broadband metrics. The considerable enhancement happened in a 4G connection, and the AAGR reached 58%. From the overall country outcome, mobile broadband raised by 22% in the last three years

Furthermore, the net addition from Mobile broadband increased substantially in the last year both in Azercell and in total figures. The growth of mobile broadband was endorsed with smartphone penetration. Simultaneously, with the expansion of mobile broadband, the smartphones substitute the features phone market share, and in the last three years, the market share of features phones is falling while the market penetration of smartphone is raising.

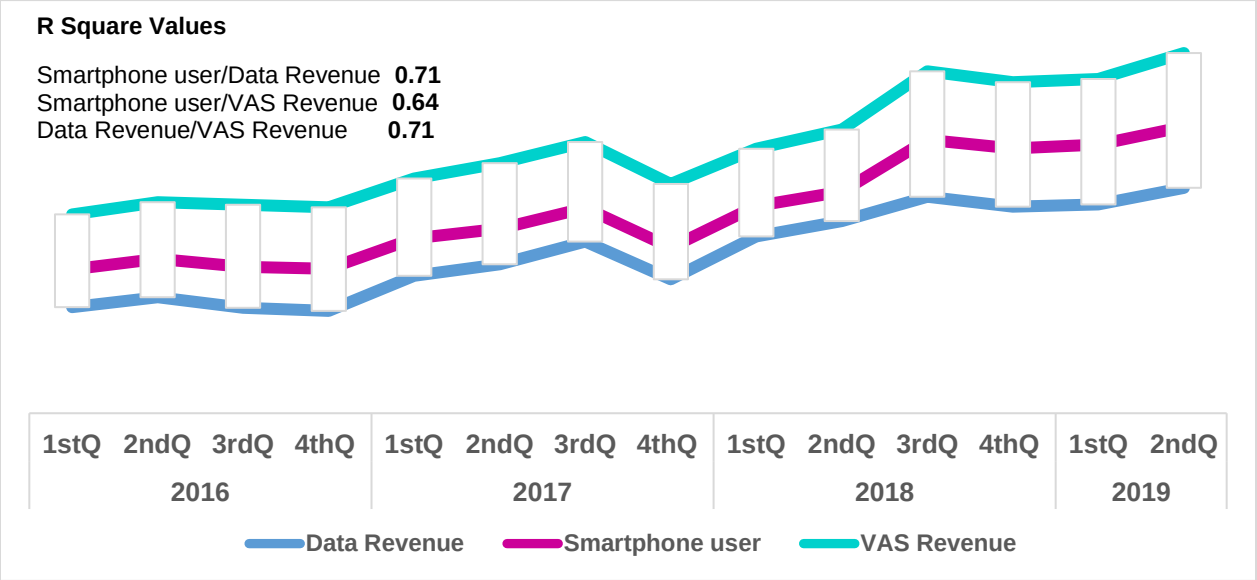
In contrast with Mobile broadband, the absolute growth rate, and market penetrations of the GSM (2G) connections are descending gradually in Azercell and in parallel, the market share substantially diminished. Compared with the total figures, 2G metrics of Azercell by connection and market penetration displayed the significant downward trend, and the 2G market penetration by of Azercell declined to 18% while in the total figures the 2G penetration fluctuated around 46% share.

Table.12 Actual Growth and Market Penetration Metrics.

Metrics	Azercell				By 4 Operators			
Annual Growth Rate	**2017**	**2018**	**2019**	**AAGR**	**2017**	**2018**	**2019**	**AAGR**
GSM Connection	-11%	-18%	-24%	-18%	2%	-13%	-17%	-9%
Mobile Broadband	30%	27%	21%	26%	23%	23%	18%	22%
3 G Connection	6%	6%	5%	6%	11%	7%	4%	7%
4 G Connection	67%	66%	41%	58%	95%	82%	48%	75%
Net addition	114%	18%	16%	49%	52%	25%	20%	32%
Market Penetration	**2017**	**2018**	**2019**	**AAGR**	**2017**	**2018**	**2019**	**AAGR**
GSM Connection	22%	18%	14%	18%	54%	47%	39%	46%
Mobile Broadband	22%	28%	34%	28%	50%	62%	72%	61%
3 G Connection	17%	19%	20%	19%	13%	14%	14%	14%
4 G Connection	6%	10%	13%	10%	3%	5%	7%	5%
Smartphone	45%	52%	56%	51%	27%	35%	45%	36%
Features phones	55%	48%	44%	49%	67%	61%	53%	60%

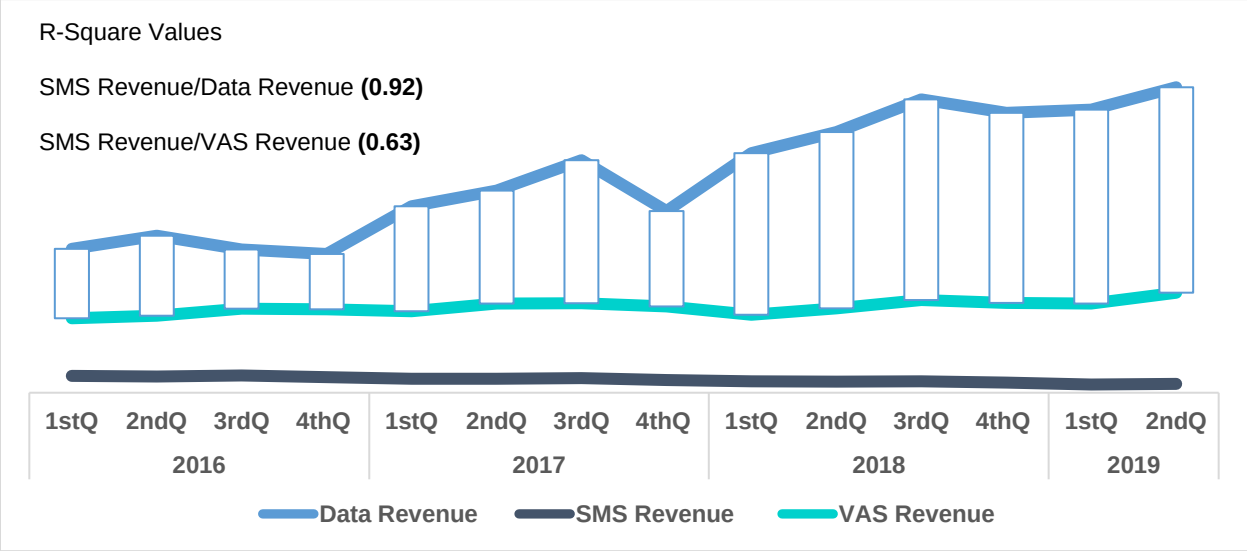
Simultaneously, the mobile broadband expansion and smartphone penetrations have secure connections as a raise of one metrics positively impact the other one. At the same time, the enhanced data usage affirmatively influenced value-added service consumption as well. The data increase and VAS revenue concurrently express the ascending growth trend. Presumably, there are indirect bounds among the three variables.

Figure 39.Correlation between Smartphone users and DATA and VAS Revenue.



Meanwhile, the juxtaposition, as mentioned above of the three indicators shows the positive correlation among them. The smartphone user raises positively influenced the Data and VAS revenue metrics, with 0.71 and 0.64 R -Squared values, respectively. Simultaneously, there is also a strong correlation between Data and VAS revenue as both revenue streams are gradually increasing. The squared value between two variables is 0.71.

Figure.40 Correlation between SMS and DATA /VAS Revenue.



Conversely, the comparison of SMS revenue with VAS and Date revenue expressed a strong negative correlation. The R-squared value between SMS and Data revenue is (0.92) while between SMS and VAS revenue is (0.63). Compared with VAS and Data revenue SMS revenue showed the opposite trend, and the critical change happened in the Y 2017 when the SMS revenue started the gradual descending trend,

and Data revenue kept the steady upstream propensity. Meanwhile, the considerable change in VAS revenue occurred from Y2018.

9.3.6 Prediction analysis.

The outcome of descriptive and diagnostic analyses justifies the assumption of revenue stream alteration. The evaluation of historical and current data interpreted Azercell` s revenue generators existing position, and the comparison of SMS and airtime metrics with Data and Value-Added services outlines the traditional revenue streams subdue with the new ones. The digressive trend of SMS traffic is endorsed by Data traffic upward trend. In comparison with Data and SMS traffic, Airtime displayed the fluctuation trend by ascending and descending disposition by the influence of the various factors.

Meanwhile, for the explicit comprehension of future trends, the historical data assessment is not enough. Based on the historical data trendline, the future prediction of key revenue generators should be executed. Although the modern mobile telecom industry is very fragile to the market dynamics, the appropriate prediction of revenue generators can assist the specifying the future position of the company in terms of revenue streams.

The prediction analyses of the remaining semiannual and the whole Y 2020 were executed according to the evaluation of 4 years data for the period January 2016-June 2019 through the Time series forecasting model components. (Lind, Marchal, & Wathen, 2012) Time series forecasting model assists in forecasting the future data by application the relevant patterns. As the first step, the historical data was calculated by defining the **Moving average** pattern for each quarter and year correspondingly. The moving average assisted in defining the trend line by eliminating seasonality impact and deviation of quarterly data. The next implemented pattern was **Seasonality** component for defining the seasonality index by the original data and the central moving average. The seasonality index emphasized the seasonality fluctuations over the one year for the adjusting seasonality effect through **Deseasoalizing** component. The linear trend regression was used by specifying the trend line through trend equation Y=a+bt in the **Forecast pattern**. Y was the projected trend, and a was the intercept of Y, *b* was the slope of the line, the average change and *t* was the value of selected time. The deseasonalized traffic was considered as dependent variable Y, whereas the period was defined as the independent X variable, and the future trend line calculated according to the Y=a+bt equation. As the last pattern, the forecast of the Y 2019 semiannual and Y 2020, the total projection was done by multiplying the trend to the seasonality index. The revenue of all metrics, SMS, Airtime, Data, and VAS were calculated according to the time series forecast components.

Table.13 Actual/ Forecast Figures (2017-2020)

Revenue	Period	SMS	Voice	Data	VAS
Actual	2017	-16%	-2%	38%	4.4%
Actual	2018	-20%	0%	34%	3.6%
Actual/Forecast	2019	-24%	-1%	17%	7.3%
Actual/Forecast	2020	-33%	-1%	17%	9.0%

According to the time series forecast prediction, the forecasted data is close to the original data. The projection confirms the SMS revenue ongoing decrease in the next 18 months periods. Together with SMS, the Voice revenue will also diminish but compared to SMS, the downward trend will not be so aggressive, and the marginal decrease will be 1%. The Data and VAS revenue will keep the steady ascending trend in further periods. Even though the forecast trendline coincides with actual data, the explicit prediction for the 18 months cannot be achieved. The Mobile Telecom Market is very sensitive to any external factors and can be exacerbated with any economic variations.

Figure 41.Data revenue Time Series Forecast.

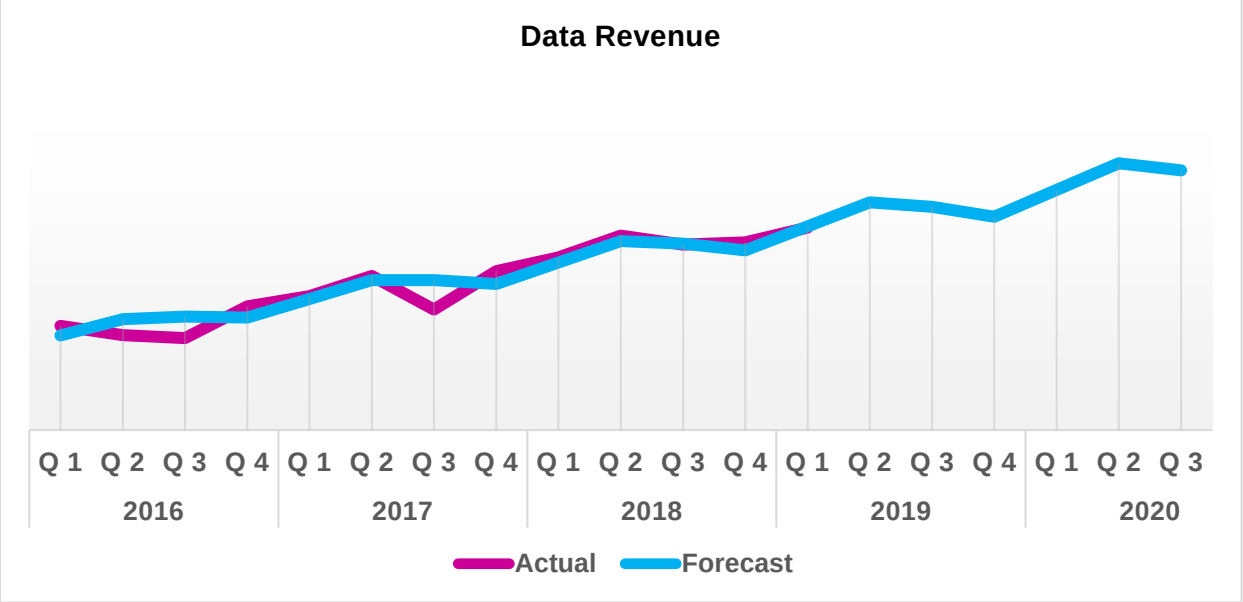
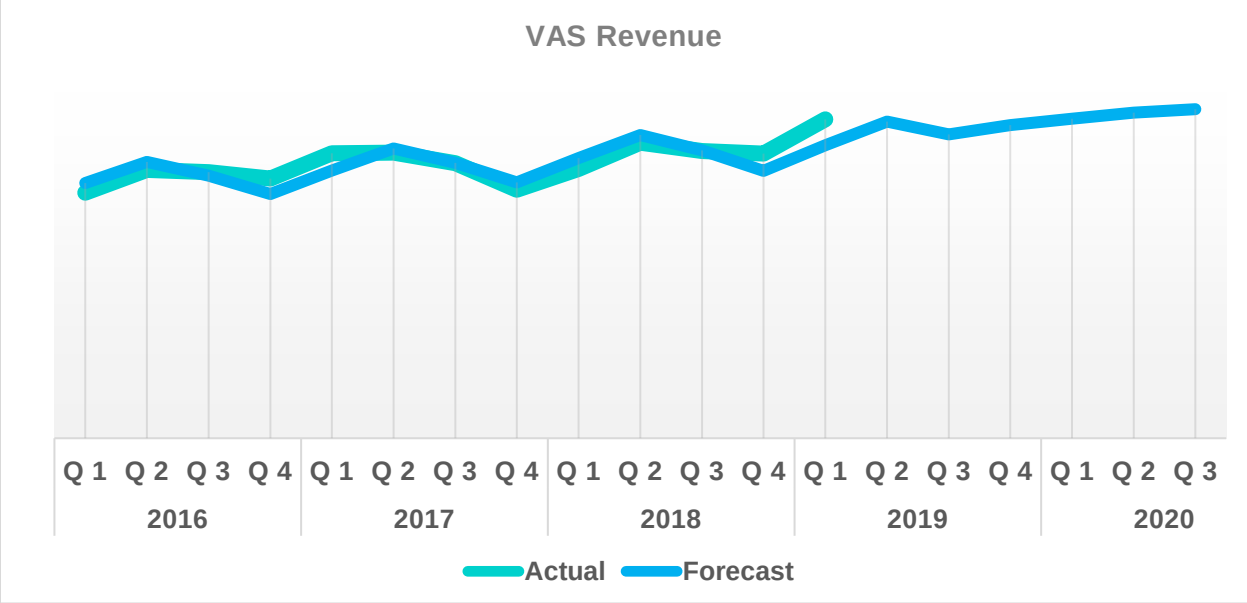


Figure.42 VAS revenue Time Series Forecast.



In addition to the internal data projection, the overall Azerbaijan Mobile Telecom Industry and peculiar Azercell market forecast for the next two years were assessed based on GSMA Intelligence prediction data. According to the GSMA data, GSM (2G) growth and market penetration will express the downward trend (GSMA Intelligence Data, 2019). The AAGR rate will decrease by 30% and 23% in Azercell and overall country outcomes, respectively. Concurrently, the market share of 2G will also diminish and consist of 8% of the market share. Meanwhile, the Mobile Broadband the annual growth rate and market penetration outcomes by Azercell and by country will express the upwards tendency and also, the 4G connection will predominant the 3G connection. Simultaneously, with the extension of mobile broadband, the smartphone will strengthen the position in the market by mitigating the features phones position.

Table.14 Predicted Growth and Market Penetration Metrics

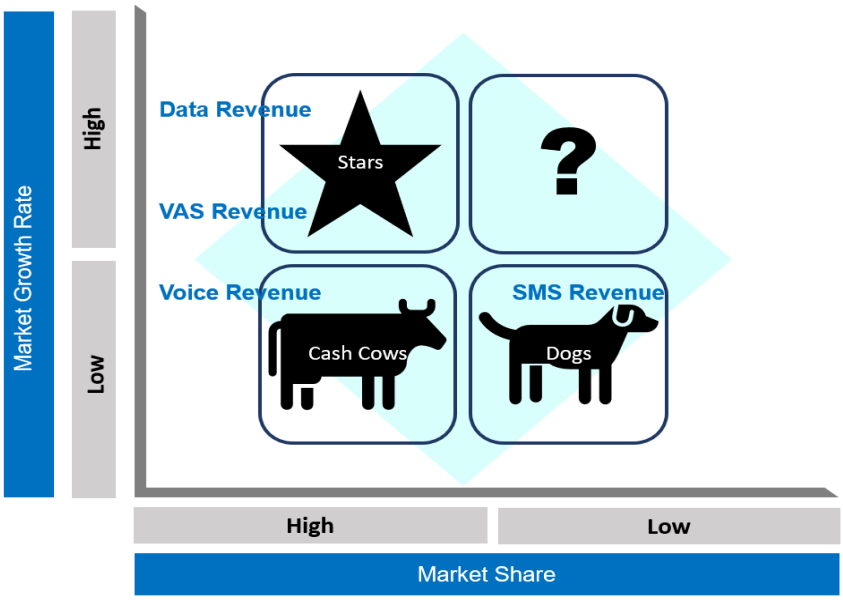
Metrics	Azercell			By 4 Operators		
Annual Growth Rate	**2020**	**2021**	**AAGR**	**2020**	**2021**	**AAGR**
GSM Connection	-29%	-31%	-30%	-20%	-26%	-23%
Mobile Broadband	16%	11%	13%	15%	13%	14%
3 G Connection	8%	5%	6%	4%	2%	3%
4 G Connection	27%	18%	23%	31%	26%	28%
Net addition	-9%	-21%	-15%	-2%	0%	-1%
Market Penetration	**2020**	**2021**	**AAGR**	**2020**	**2021**	**AAGR**
GSM Connection	10%	7%	8%	31%	23%	27%
Mobile Broadband	39%	42%	41%	83%	93%	88%
3 G Connection	22%	23%	22%	44%	45%	44%
4 G Connection	17%	20%	18%	39%	48%	43%
Smartphone	58%	64%	61%	54%	63%	59%
Features phones	42%	36%	39%	45%	39%	42%

9.4.Outcome of the Findings

The consolidation and estimation of qualitative and quantitative data provide insight into the company revenue assessment from different perspectives. Based on internal numerical data evaluation, Azercell revenue stream alteration reflects the global upward and downward trend in key metrics. SMS usage is gradually retreating and leaving the place for data consumption. The alteration of traffic consumptions is directly affecting the revenue results, and SMS revenue is gradually shrinking while Data and VAS revenue demonstrates the positive results. Together with SMS revenue Voice revenue also is not expressing the optimistic projections. In accordance with the Boston Consultancy group`s product portfolio matrix (BCG) (Hollenson, 2014), Azercell revenue streams can be displayed accordingly.

- Data Revenue/VAS Revenue- Stars
- Voice Revenue-Cash Cows
- SMS-Revenue- Dogs

Figure.43 Azercell Growth Share Matrix.



In reliance on the BCG growth-share matrix theory, the SMS revenue has negative market growth and declining market share. The fluctuation and the modest decline trend establish Voice revenue in the low-left corner of the matrix. Although the Voice revenue market share is still high, there is an opportunity for market growth, and based on projections, voice revenue will continue the steady decline in the nearest future. Considering the annual revenue increase and market penetration growth, Data and VAS revenue can be displayed in a high-left cornet. The integration of mobile broadband and smartphone penetration create favorable conditions for both services and market share and growth rate shows the ascending tendency.

9.5 Recommendation.

In accordance with the assessments mentioned above, Azercell must consider the Data and VAS services as the key revenue generators. Nevertheless, Azercell is using various marketing strategy for restraining the airtime and text messaging position in the markets, the revenue proportion of both services is deteriorating. Azercell is trying to sustain the profit of each service through different product ranges and expressing voice and SMS as add-on services in different campaigns and bundles. Company is also trying to leverage customer retention by different particular segmented products both for consumer and enterprise markets. Meanwhile, in the stage of rapid integration and hectic competition, the customer loyally alleviated and contemporary customers are not satisfied with traditional services and demand more innovative and sophisticated services. Additionally, the service differentiation features have almost vanished as all three operators are providing the same product ranges, besides other two mobile operators try to pick up Azercell share by price-cutting strategy.

Based on all these outcomes, Azercell must outline the next strategy by accentuating the data-centric approach and must intrude the new product lines for the enhancement of Data usage and utilization of different value-added services. The new strategy of the company must contain the customer retention and revenue growth enhancement through distinct, innovative product lines. The new products must be designed for the reinforcing the value proposition through boosting data and value-added service usage. Throughout this project, the deployment of the different value-streams was being estimated.

9.5.1 Internet of Things.

The idea of the internet of things (IoT) contains the establishment of seamless connectivity between physical and digital objects without human interference. The interaction between human to object and object to object are being transformed through the existing internet connections. The large scale of IoT devices is using cellular and non-cellular technologies. The non-cellular technologies connection is being provided by Bluetooth, WIFI, and LOR while the cellular connection is maintained by Mobile Broadband connectivity. (IoT connectivity comparison, 2019)

The evolution of high-speed internet and the extensive growth of the IoT devices impulse mobile telecom industry to transform the infrastructure and build up new business opportunities. Mobile operators are intending to accomplish the new capabilities by enlarging the 3G and 4G network capacity, according to 3GPP standardizations. (IoT Connection Efficiency Guidelines, 2014) The development of the LTE (Long Term Evolution) is also enforcing the foundation of IoT as a new value stream for mobile operators worldwide. IoT is playing a pivotal role in defining the differentiating strategy through innovation inculcation. (Mobile IOT, 2019) The mobile operators in the developed world are adding the IoT to their product lines and modernize the infrastructure correspondingly. Vodafone strengthened the IoT connection all its European footprints, and the other operators such as AT&T in the USA and NTDOCOMO in Japan were the pioneers in the deployment of IoT connection. Besides, China and Indian mobile operators with the most substantial subscription numbers are planning the enlargement of IoT connections, and according to the GSMA estimation, the highest revenue proportion will be obtained in Asia-Pacific region due to economies of scale. The overall revenue estimation of the IoT service in Y 2025 is being considered to reach 1.1 trillion. (Global Mobile Trends, 2018)

Meantime, the deployment of the IOT requires the following operator and market potential.

- The expanded 4 G(LTE) and 5G Network
- The reliable infrastructure

According to the projection, the number of IOT devices will be reached to 21 billion on Y 2020. However, the large scale of expansion will be congregated in the developed countries where the penetration of smart devices is well developed, and mobile operators' revenue can be generated through economies of scale (Telecoms, 2016)

IoT service implementation requires an enormous investment from mobile operators. For the flawless of interactive exchange, the 5G network must be expanded as 4G traffic is not always capable of meeting all IoT device requirements. Also, operators with 3G and 4G network coverage advantage must adopt low-power wide area network (LPWAN) technologies for complementing of IoT service to their network infrastructure. Simultaneously, the Network Functions Virtualization (NFV) cloud technologies should be implemented for the sustaining the high-speed interactions between objects. Besides, most IoT devices are using low bandwidth, and minimal (kilobyte) increments are transferring data consumption, and the profit can be acquired through economies of scale.

In comparison with developed countries, the IoT infrastructure has not well developed in Azerbaijan. Consequently, the IoT implementation is being projected for the long-term return of investment (ROI).

Azercell is expanding 3G and 4G network, however, considering Azercell 4G coverage has reached to 48% in Y 2019, and 5G network has not developed yet, Azercell will require the additional requirements for the deployment of IoT infrastructure. For the acquiring IoT as a differentiated feature, Azercell must enlarge the 4G network and start 5G coverage integration. Besides, for the installation of NFV and LPWAN capabilities, Azercell will require OPEX expenses.

Throughout the consultancy project, the IoT service implementation has been discussed with technical and commercial team management correspondingly. Considering the high investment for IoT service implementation and low ROI from the service consumption it was ubiquitously agreed the deployment of IoT could be planned in the long run, and for the acquiring new value stream, the mobile financial services can be considered as a new value stream for the next 12 months.

9.5.2 Mobile Value-Added Services.

The assessment of the numerical data vindicated the value-added services revenue stream expansion in the last three years. Compared with the other VAS, Azercell Plus Service revenue constitutes the small proportion of the revenue. Nevertheless, the annual growth rate composed a substantial change. The last year rise ended up by 10%, and year on year growth in Y 2018 and Y 2019 made 50% and 186% respectively. Simultaneously, the number of users for Azercell plus services is also distributed the significant growth rate and especially the Music (Zvooq), and Entertainment services subscriptions demonstrate stable growth. Even though the Mobile TV and Mobile Cinema services were launched in at the end of the first quarter, both services acquired the considerable subscriber number in the short period of time, and the number of users is increasing on a month over month figures.

Table.15 Share of Mobile Value-Added Services

	2017	2018	2019	2017/2018	2018/2019
Azercell Plus Services	**3%**	**4%**	**10%**	**50%**	**186%**
0 Balance Options	49%	48%	45%	4%	4%
Partnership Services	48%	48%	45%	6%	2%

Table.16 Subscriber count of MVAS services

Subscriber count	2017	2018	2019
Bookmate	172,470	175,000	208,237
Zvooq	293	31,571	314,562
Entertainment	14,457	39,714	55,454
Mobile TV	-	-	93,332
Mobile Cinema	-	-	82,726

The increasing popularity of the Value-Added services, the deployment of the value stream through the VAS expansion can be regarded as a trigger for customer retention and new revenue stream generation. The horizontal expansion of product ranges by VAS can create additional opportunities for company.

- The enhancement of Data usage
- No cannibalization of traditional services.
- Simplified CAPEX and OPEX cost
- No Investment costs
- Increase Customer Loyalty

The value-added services create the additional revenue and do not replace any traditional services consumptions and conversely launch of VAS boosts the data consumption as most of the services are being used by Data services. Besides for the implementation of the services not additional technical equipment or hardware and software upgrade requires. Company does not require any investment costs and the service fee can be limited by OPEX costs. Besides, the deployment of the additional user-friendly services reinforces the customer loyalty to the company. (The Business of Tomorrow, 2018)

According to the aforementioned factual information, the implementation of Mobile Financial Services as a new Value-Added Service can be considered as the new value stream.

10.Implementation

10.1.Introduction.

Mobile Financial Services is in the development stage in Azerbaijan. Majority of banks are working on integration to the online and mobile banking systems. Mobile operators are also assisting the mobile payments through their websites, and the connection to the online payment tools is available from all three operators` website and mobile applications. Moreover, the government regulatory bodies express direct support in the development of the financial services in Azerbaijan. The strategic roadmap which was developed in Y 2017 comprises the short term and long perspectives of the financial service integration for the period 2020-2025. The primary intentions of the roadmap is to strength financial inclusion and extend the financial services channels through alternative digitalized services. (Azerbaijan Economic Reforms Review, 2017)

In compliance with government support and internal digitalization strategy, Azercell is considering the submission of mobile financial service as the new value proposition. In comparison with other developing countries, the banking sector is well developed, and financial inclusion is considerably modest in the country. Based on this, Azercell is planning the Collaborative Model structure in the deployment MFS. The in-depth evaluation of the Banking sector endorsed the cooperation concept with Pasha Bank.

10.2.Partnership with Pasha Bank

According to the completed questionnaires' results, 48% of all Azercell subscribers choose Pasha bank as the best bank in terms of service level and customer orientation.

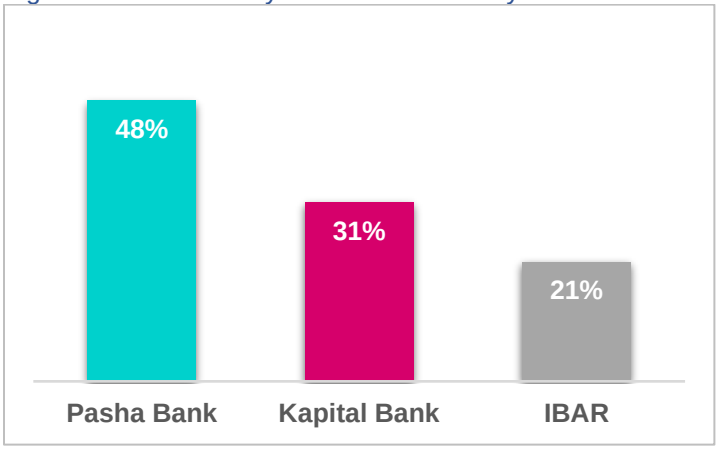
Traditionally, Pasha Bank was a corporate bank with high-level standards of service for clients and transparent “Know Your Customer” procedures.

Pasha Bank continually holds the highest position in the enterprise market. Currently, one of the main objectives of Pasha Bank is to enter the consumer market and expand the retail sector accordingly. Besides, Pasha bank is interested in the partnership with Azercell and negotiated with Azercell the possibility of launching joined MFS product.

During the interview process, both sides acknowledged the evidence of a mutually beneficial possible alliance between the bank and telecommunication operator. For instance, digital excellence and cutting edge professional software and facilities of Pasha Bank strengthened by the high quality of services, knowledge and skills of employees of Pasha Bank from one side and broad customer base, expertise of Azercell fortified by the fundament of European telecom business heritage (Telia Sonera’s experience) from another side may lead to a synergetic collaboration and invaluable experience strengthening positions of both Pasha Bank and Azercell in Azerbaijan.

Moreover, strong positions of Pasha Bank Tukey and Pasha Bank Georgia can foster the further development and inter-country telecommunication services leading to increased satisfaction of the Azercell customers traveling to Turkey and Georgia, the most popular traveling destinations for Azerbaijani citizens.

Figure.44 Best bank by service level and by customer orientation.



Moreover, the organizational structure of PASHA Bank contains a separate award-winning private banking division. PASHA Private Banking established in 2010 is assisting high net worth individuals in managing their assets in effective and fruitful ways. It serves both the financial and non-financial needs of customers. For instance, Pasha Bank fortified by international partners provides the best available solutions in investment management, real estate, medical, educational, and other kinds of services to the clients (Private Banking, 2019).

Furthermore, PASHA Bank is the highest-capitalized private bank in Azerbaijan, with total equity of AZN 418 million, and ranking among the top-three banks with total assets of

AZN 4,696 million. Financial results reflecting the financial state of the Bank at the end of 2018 is reflected in the Table No 17 below.

Table.17 Pasha Bank Financial Results

2018(*)	PASHA BANK AZERBAIJAN (AZN '000)
Net Profit	77,057
Loans	1,320,893
Total Assets	4,695,717

One of the core competitive differentiators of PASHA Bank in comparison with other Banks is a commitment to the constant development of new digital products and services based on the appropriate digital strategy. The Bank uses the design-thinking methodology to develop its product and service portfolio. This approach provides essential information on customer needs and preferences, which is used in the design of products and processes.

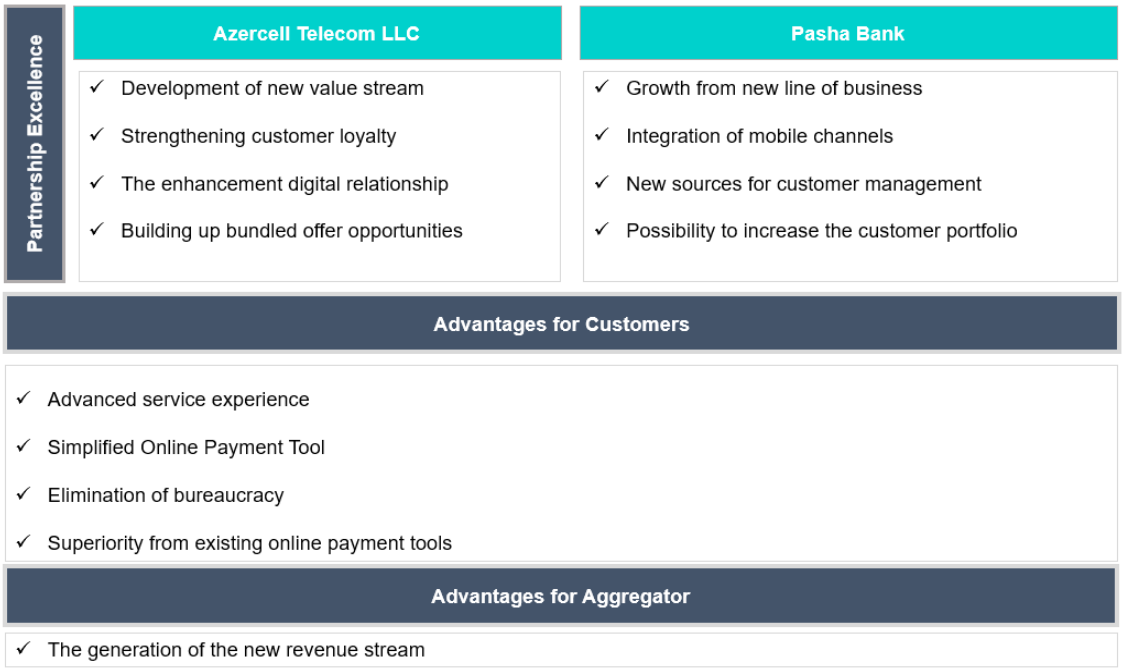
The digital strategy of pasha Bank was formulated in 2017 for a three-year period. According to the 2017-2020 strategy, Bank is concentrated on the digital transformation of all core operations and processes aimed at obtainment of efficiency and rocketing profitability based on sustainability.

Since its establishment, PASHA Bank and its subsidiaries have obtained numerous awards and accolades from prestigious international and domestic renowned Finance Magazines and financial organizations that reflect the leading position and extremely fast development processes ongoing inside the entity. For instance, 5 awards were obtained by the Bank in 2018 that triggers proactive performance of the Bank for meeting sophisticated and digital-oriented services expectations of customers in the future. (Pasha Bank, 2018)

10.3.Value Creation of Mobile Financial Services

The implementation of the new service can constitute the absolute benefits for all stakeholders. The cooperation between Azercell and Pasha bank can create mutual benefits and generate affirmative solutions from the revenue and customer retention perspectives. Companies, mainly Pasha, will get the opportunity of the enlargement the customer quantity and reinforce the efficiency. The new cooperation will sustain the new preposition for Azercell and sustain the company attractiveness. Additionally, the new service will differentiate both companies from competitors and create outright advantages. At the same time, the new service will be favorable from the customer aspects as well. The new service will simplify the interaction of the customer with banks and create a new channel for executing personal financial management.

Figure.45 Advantages for the all Stakeholders



- Advantages for Azercell

The difference between the traditional services of mobile operators is steadily shrinking, and the establishment of a differentiating strategy is getting harder to achieve. The new service can give the opportunity to launch the various services and develop the new revenue stream for Azercell in the long run. The additional value-added service can enlarge the product range and create the possibility of constituting the diverse campaign management based on the segmented customer profile. In addition, the newly obtained service can also strengthen customer faithfulness. Nowadays, customers are shifting mobile operators very easily without any hesitations. According to the survey result, 12% of the total respondents are using Azercell and the other mobile operator at the same time. Customer loyalty is one of the fundamentals in the mobile service management as customer retention requires no fewer efforts and attractiveness than acquisition. The additional service in the financial area can seduce the customer attention and prolong the lifetime with Azercell. Comparing with other customer retention campaigns, the new service will not require the sacrifice from gross margin proportion, and conversely has a positive influence on the bottom line.

Moreover, digitalization is a key outline in strategic planning, and the company is aiming to endorse digitalized communication in all procedures of customer management. The development of the new service through innovative approach can emphasize more effective relationship by delivering the real-time personalized financial service management channel. Besides, MFS can be included as a complementary service in the different bundled offers. The combination of MFS with traditional services or with other value-added services can enhance the consumption and sustain the total revenue.

- Advantages for Pasha Bank

Currently, Pasha bank is possessing a leading position in the enterprise market. Meanwhile, the launching of a new service with Azercell can serve as a motivation of driving retail banking strategy to a successful level. The implementation of the new business line can sustain the productive business process and reinforce the market penetration for Pasha bank. The new business line will sustain the new revenue stream for the company and increase the company productivity

Pasha bank has already established the relevant mobile application for customers, but this application is used only for the specific Pasha bank customers and the new communication through Azercell can create the additional mobile channel with customers and trigger acquisition of new customers. In fact, the number of Azercell customers is around 4.5 billion, and almost half of the subscribers are smartphone users. These two factors create the enormous advantageous for Pasha bank in customer management. The vast amount of Azercell customer quantity will positively influence enlargement Pasha bank customer profile and formulate the new segment. The correlation analyses proved the positive relations between smartphone users and data and value-added service consumptions. Considering that there is a strong probability that smartphone users will constitute the main target customers for Pasha bank as well.

- Advantages for the Customers.

Together with entities, the release of the new service can construct several benefits for the customers as well. The implementation of the digitalized mobile financial service through mobile phone number will integrate the customer experience to a higher level of service management. Customers will be able to have touchpoint connections both to mobile operator and bank and through one application.

In fact, in the era of high technological generation, the mobile application is an inevitable part of service operations. Most of the banks are having online banking service. However, the main privileges of this service from other mobile application will be a more simplified approach. For opening a new line or making any change in bank account customer must apply to bank and proceed the required documentation process in the working hours. Azercell already has Mobilbank service, which enables the payment service through Azericard.

Nevertheless, according to the survey results, the awareness about this service is very low, and customers do not use this service very often. In order to activate Mobilbank Azercell subscribers must proceed with all banking procedures, whereas in the new service Azercell customer will not require to apply to Pasha bank directly and sign an agreement and open balance account. By activating the new mobile financial service customer will eliminate any bureaucratic procedures and save time. Customer will need only the mobile identification number and activate the service through SMS or short code. The connection to the service will be available in the 24/7 period. Customer will also be able to download the embedded application or connect to the service through Azercell website. The mobile number will be operated as a bank account, and the customer will be able to make payment for utility services and payment of bills by using the mobile number.

- Advantages for Aggregator

The Data Processing Center of the Ministry of Transport Communication and High Technologies will be limited on establishment the connection between Azercell and Pasha bank. The Data processing center will be worked as an aggregator on transaction of the money and will get the share from the transferred amount. (Data Processing Center (DPC), 2019)

10.4.Service Evaluation Matrix.

In addition to the service assessment from stakeholder's viewpoint, the MFS as the new product should be evaluated through various parameters for understanding the strong and weak peculiarities.

Figure.46 Evaluation Matrix

Evaluation Criteria	Weight	Rate scale (1-10)	Calculation
Financial Inclusion	10%	7	0.7
Strategic Alignment	10%	10	1
Innovativeness	5%	9	0.45
The risk of Cannibalization	15%	9	1.35
Financial Feasibility	15%	9	1.35
Security	10%	8	0.8
Usability	10%	8	0.8
Competitive Advantages	10%	9	0.9
Hard to Imitate	5%	5	0.25
Implementation requirements	10%	10	1
Total Score			**8.6**

The financial inclusion-The assessment was done through 10 characteristics by evaluation from 1 to 10 rate score. The reliable financial inclusion simplifies the submission of the new service by Azercell as the new service will not be an unknown tool for customers.

Strategic Alignment- The key targets of the company in the further perspective the integration of all services to the digitalized level and deploy the new digital services.

Innovativeness- Although, mobile banking is developing in Azerbaijan, the service where the mobile number will contain the bank account functionalities will be the first one.

Cannibalization- Considering that the service will not substitute any accustomed mobile operator services, there will be no risk of cannibalization factor.

Financial Feasibility- the company, will get a positive gross margin in the short run and the revenue growth from the economies of scale in the long run.

Security- For maintaining the security and eliminating any fraud actions the money transaction will proceed with a virtual bank account and the subscriber will get the immediate information to their mobile number and will be able to control the mobile account any time.

Usability-the usage of service will be straightforward, and the service will be offered through Azercell website and mobile application.

Competitive Advantages-The service will be the new one in Azerbaijan mobile market industry and sustain the competitive advantages for Azercell for a while.

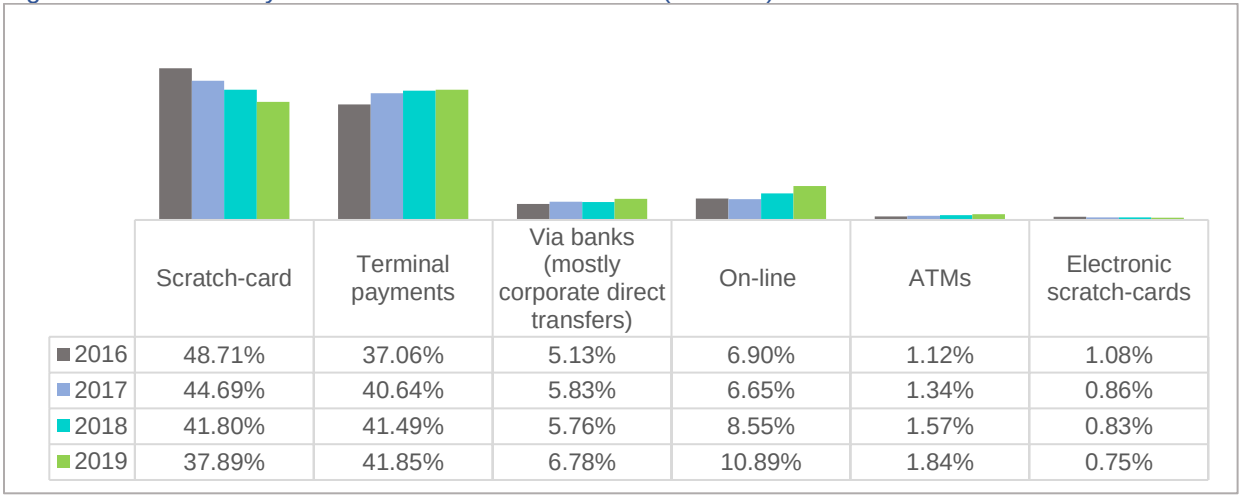
Hard to Imitate-Considering the difference among mobile operators has almost vanished, and mobile operators imitate each-others strategy, the other mobile operators can also launch the same service with other banks.

Implementation requirement-The implementation does not require the capital investment through hardware and software integration Azercell, and Pasha bank will implement service based on their internal resources According to the assessment, the cumulative score is 8.6 from the 10-score rating. It substantiates the service relevance to the market conditions and development of the short term and long-term strategies in compliance with the company outline.

10.5.Strategic Planning.

Besides of constituting the new value preposition MFS can also create the additional value for Azercell. The collection of customer payment is being proceeded through different resources. Azercell subscribers are paying bills through online payment portals, banks, or top-up balance by scratch cards.

Figure.47 Share of Payment collection tools 2016-2019 (Jan-Jun)



	Scratch-card	Terminal payments	Via banks (mostly corporate direct transfers)	On-line	ATMs	Electronic scratch-cards
2016	48.71%	37.06%	5.13%	6.90%	1.12%	1.08%
2017	44.69%	40.64%	5.83%	6.65%	1.34%	0.86%
2018	41.80%	41.49%	5.76%	8.55%	1.57%	0.83%
2019	37.89%	41.85%	6.78%	10.89%	1.84%	0.75%

The above-indicated table demonstrates the share of the money collection data for Azercell in comparison with the first and second quarter of data in the last four years. The proportion from online payment is considerably increasing yearly while scratch card share is declining gradually. It seems that in the last two years, Azercell customers preference has changed towards online payment tools. It was also revealed out from survey results as most respondents indicated the online payment portals and mobile payment applications as the primary instruments for paying mobile phone expenses.

In addition, Azercell has an agreement with all payment collectors for sharing the proportion of the received money. Nevertheless, the money receiver is a merchant who sells scratch cards, banks, or online payment portals Azercell is paying approximately 2.5% as the transaction cost for each received amount

Table.18 Total Revenue and Gross Margin from Money collection (in thousands)

Period (Jan-Jun)	Revenue	~ %	Cost of money collection	Gross Margin
2016	₼ 232	2.5%	₼ 5.8	₼ 226
2017	₼ 243	2.5%	₼ 6.1	₼ 236
2018	₼ 249	2.5%	₼ 6.2	₼ 242
2019	₼ 255	2.5%	₼ 6.4	₼ 249

The cooperation with the bank and the launch of MFS as a new product in addition to generating new value preposition will also reduce the cost of money collection.

10.6.Process Algorithm

The launch of the MFS project will contribute to making the payment process easier, faster, and more efficient for Azercell customers. The process will be circulated among the three stakeholders accordingly. The service will be available on the Azercell website, and subscribers will be able to use the Azercell website for payment transition or download the application from the website to their phone. The subscriber can fill in the payment balance by any existing top-up channel (see above the table of collection tool) to his/her Azercell number.

The graphic visualization of the process is depicted in Appendix 3*.*

The whole process can be described in the stages below:

Step one - The customer of Azercell is going to make payment for utilities (for instance, gas payment) from the telephone balance. The user applies to either the “Payments” option in the Mobile Application of Azercell or website of Azercell and chooses the necessary type and code of “Utilities” for payment.

Step two and Step three - According to the client’s instructions, Azercell is checking the balance, whether it is enough to make the respective payment. Feedback or balance information received by Azercell constitutes **Step three** of the process.

Step four - If the balance is sufficient for the payment amount, the process continues with the appropriate instructions of Azercell to the Clearing Center.

Step five - The Clearing Center sends an information request to Pasha Bank about the one-time virtual card creation for the user with the balance equal to the amount of utility payment to be fulfilled.

Step six - Consequently, Bank reverts with the notification of the created virtual card.

Step seven - Afterwards, Clearing Center provides payment documents to the “Provider,” which is Data Processing Center (under “Smart Pay” brand) and payment confirmation is received by the Clearing Center accordingly that refer to **Steps eight and nine**.

Then, at **Step ten** Clearing center simultaneously sends information on the payment status to Azercell and at **Step eleven** - provides instructions regarding cancellation of the virtual card to the Bank.

Step twelve - After finalization of the full process reconciliation of funds is executed among the Azercell, Pasha Bank and Data Processing Center ("Smart Pay") on a monthly basis and consequently, the commission is paid to Azercell based on the volume of transactions made.

10.7.The United Business Model Development

Considering that the service is new for Azercell, and the implementation and acquisition of the service will take additional promotions, the product development can be divided into the short term and long-term business models. The short-term model will be designed for the first six months, and after getting the modest market awareness, the second stage of the business model will be designated for the long term.

- Short Term (1st Stage) Business Model
- Long Term (2nd Stage) Business Model

10.7.1 The Short-term Business Model.

In the first stage, the business model is considered for decreasing the money collection costs for Azercell and generating the customer attractiveness in the next stage for both Azercell and Pasha bank. For the short-term period, it was agreed among Azercell, Pasha bank, and Data Clearing Center (DCC) will not focus on revenue creation but focusing on customer acquisition. The prime objective of the short term is to sustain customer retention by strengthening customer loyalty. The principal of the first period is to increase awareness and attract customers for long-term period consumption. Pasha bank and DCC accepted to proceed with the business process in the first six months without getting money transaction revenue. Azercell will also implement the service with free of charge principal. Currently, the money collection cost varies around 2.5%, and the elimination of the money collection costs by Pasha Bank and DCC will decrease the cost for Azercell by 0,5% (2.5%-0.5%=2%).

10.7.2 The Long-term Business Model.

In addition to reinforcing the customer retention, the second stage of the business model is planned the achieving the additional objectives.

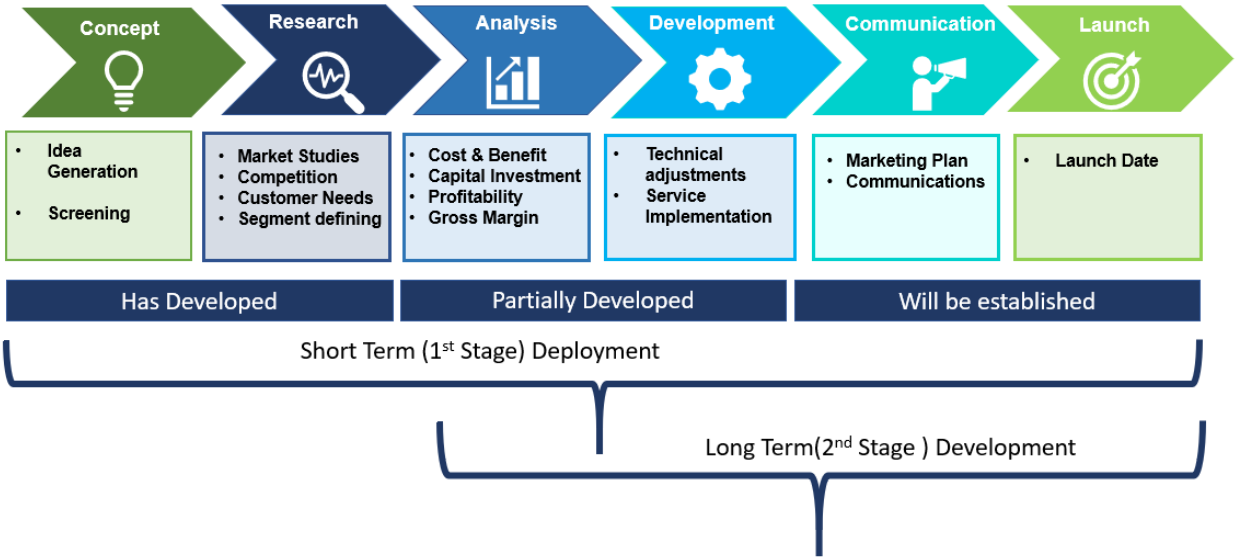
- Decrease of the money transaction costs.
- Generate the new revenue stream

Generally, the cost of money consists of 2.5% collection costs for Azercell and whereas 2% of the cost is being generated through bank transactions. In the long-term perspective, the transaction cost from the MFS payments will be shared among stakeholders, respectively (70/20/10). The 70% of the 2% collection revenue will be paid by Pasha bank to Azercell, and 10% will be transferred to the DCC, the remaining 20% will be Pasha Bank revenue share. Azercell will get 1.4% revenue from the MFS money transactions. (2%-0.70%=1.4%) In total Azercell money, collection cost will be decreased by approximately from 2.5% to 1.1% accordingly (2.5%-1.4%=1.1%). Moreover, Azercell will define the different pricing strategy for the MFS and get the additional revenue from each payment.

10.7.3 Service Development Process.

The short- and long-term outlines compose several stages of the service development process. The first stage of the development has been evaluated through concept valuation. The relevant market research assessment helped to define the market requirements and estimate the respective customer segment. Moreover, the conduction of business analyses through define business patterns ascertained the proper business conception. However, the next stage of the development will proceed in the upcoming months, and the technical implementation, service development, and marketing communication will be planned accordingly. At the same time, in the implementation of the second stage, the business analyses will be updated based on actual results of the first stage and service development plan will be adjusted accordingly.

Figure.48 Service Development Process



10.7.4 Marketing Strategy.

Meanwhile, together with market assessment and estimation of the financial profitability, the corresponding marketing strategy is a fundamental characteristic in any new service introduction. (Kotler, 2000)

Marketing strategy enables to define the marketing and financial objectives and maintain the effectiveness though of competitive positioning. The key attributes of the service were designed for the deployment of the sustainable positive return in the long run through maximizing customer lifetime with Azercell. The evaluation of the target customer and the competitors` analyses will endorse the building of the appropriate marketing plan.

Target customer -As expected, customer segment was estimated though smartphone users. Considering that more than half of Azercell subscribers are smartphone users, and it gradually increasing the smartphone penetration percentage from total active customer quantity was measured as the first indicator. The second assumption was based on the survey results. According to the survey results, 65% of the total 165 Azercell subscribers pointed out the interest in using the mobile number as the payment tool for covering the phone bills and utility services expenses.

Table.19 The assessment of possibility of payments from mobile number balance.

I am not interested	36
I do not understand what it is	8
It will be useful for micropayments (utilities etc. - up to 50 AZN)	44
It will be useful for app payments.	14
It will be useful for different payments	63

The next assumptions defined as the expected customer segment rate and acquisition rate. Presumably, the number of users will be modest in the first stage, and the number of users will be increased steadily. Based on this, the decent growth rate was indicated for both indicators.

MFS User calculation (((Active customer* Smartphone penetration rate) *65%) *expected customer growth rate) *acquisition rate.

***Competitors Analyses*-**The service will be new in Azerbaijan Mobile Market industry, and even though all mobile operators are providing mobile payment services, none of the operators are presenting similar service. Nevertheless, there is a significant probability that the other two mobile operators will intend to repeat the positive experience of Azercell, but Azercell will be considered as the first mover and will benefit from this priority

Marketing Mix (4 P)

Product**;** payment of phone bills, utility services and other services through Azercell Mobile Financial Service

Marketing mix constitutes the combination of different tactics and mechanisms for the service endorsement layout through pricing, communication and distributions techniques. (Kotler, 2000)

Price;

Short term stage- No price will be applicable, and service will be launched with free of charge basis.

Long-term stage- In the second stage the mixed pricing strategy will be applied

- The amount > 10 AZN will be charged 0.05 AZN for each payment
- The amount< 10 AZN will be charged by 5% from the payment amount

Place; The company will use a direct distribution channel between company-customer. Subscribers will be able to activate the service by using the Azercell website or downloading Azercell mobile application.

Promotion; The Company will use the pull communication strategy for attracting customers through mass media and different communication channels. Company will use the following tools of marketing communications.

- Social Media Communication
- Outdoor advertisement
- Direct Marketing- by broadcasting the text messages to the segmented group customers.

Social media communications and direct marketing tools will be implemented through internal resources and will not require additional expenses. The company will allocate approximately 35 thousand AZN for only the outdoor advertisements for the full period and besides a higher proportion of amount will be defined for the first period when the service will require customer awareness.

Outdoor Advertising Expenses

Short-Term	Long-Term				
1st period	2nd period	3rd period	4th period	5th period	6th period
10 K	5 K	5 K	5 K	5 K	5 K

However, the marketing plan for the next stages will be adjusted based on consumer acquisition and a positive return of service consumption. The pricing strategy will be expanded by adding metrics for different segments of attractions. Communication channels mechanism can also be upgraded, and the additional expenses can be allocated due to the service requirements.

10.7.5 Expected Commercial Value.

Considering that the different pricing strategy will be applied in the short-term and long-term outlines, the different feasibility analysis calculated according to the service conditions. Besides, the service users will be monitored weekly, and the actual figures will be compared with forecasted ones. The second stage feasibility will be updated according to the actual payment outcomes. These comparisons will enable to assess the customer response rate and implement required adjustments in the service design.

Table 21 The Short-Term Expected Value (in AZN)

Short Term Evaluation for first 6 months						
ASSUMPTIONS	**Nov-19**	**Dec-19**	**Jan-20**	**Feb-20**	**Mar-20**	**Apr-20**
Active subscribers	3,800k	3,800k	3,800k	3,800k	3,900k	3,900 k
Smartphone penetration rate	56%	56%	57%	57%	57%	57%
Expected customer segment	207k	208k	211k	211k	290k	291k
Acquisition Rate	3%	3%	4%	5%	6%	6%
MFS users	6,224	6,230	8,455	10,559	16,530	18,625
SERVICES (Average transaction amount per utility)						
Utility, mobile phones bills etc.	*20*	*20*	*20*	*30*	*30*	*30*

Others (insurance, govern. pyts, TV etc.)	*10*	*10*	*10*	*15*	*15*	*15*
Entertainment (gambling, games and etc)	*5*	*5*	*5*	*5*	*5*	*5*
Total bill payment Volume per subs	*35*	*35*	*35*	*50*	*50*	*50*
Total Cash Volume	*218*	*218*	*296*	*528*	*827*	*931*
DIRECT REVENUE						
Fee rate receivable from Bank	*2.0%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*
Total revenue from payments	***4.4k***	***4.4 k***	***5.9k***	***10.6k***	***16.5k***	***18.6k***
DIRECT EXPENSES						
Top-up expenses	*2.5%*	*2.5%*	*2.5%*	*2.4%*	*2.4%*	*2.4%*
Total expense for top-up	***5k***	***5k***	***7k***	***13k***	***20k***	***22k***
PROFIT/(LOSS)	**(1.09)k**	**(1.09)k**	**(1.48) k**	**(2.11)k**	**(3.31)k**	**(3.73)k**
Total LOSS (in K)						**(12.8) k**

The first six months calculation was done based on monthly estimation usage. Presumably, the number of users will be modest in the first stage of implementation, and consequently, the considerable turnover is not expected. The only saving will be the decrease in money collection cost even though the saving will be minimal but can have a positive influence on gross margin in the growth of economies of scale in the long run.

Table.22 The Long-Term Expected Value (in AZN).

Long-Term Evaluation	**2nd Period**	**3rd Period**	**4th Period**	**5th Period**	**6th Period**
TARGET CUSTOMER	**May-Oct 20**	**Nov20-Apr21**	**May-Oct 21**	**Nov21-Apr22**	**May-Oct 22**
Active subscribers (on average)	3,967 k	4,150k	4,350 k	4,550k	4,750k
Smartphone penetration rate	58%	60%	64%	65%	68%
Expected customer segment (on average)	295k	610k	905k	1,158k	1,600k
Acquisition Rate	9%	14%	16%	16%	19%
MFS users (on average)	154	445	140	187	303
SERVICES (Average Transaction Amount Per Utility)					
Utility, mobile phones bills etc.,	*50.00*	*50.00*	*60.00*	*65.00*	*70.00*

Others (insurance, govern. pyts, TV etc.)	*20.00*	*30.00*	*40.00*	*55.00*	*75.00*
Entertainment (gambling, games and etc)	*10.00*	*20.00*	*30.00*	*45.00*	*65.00*
QR payments in retail stores				*30.00*	*70.00*
Total bill payment Volume per subscriber	*80.00*	*100.00*	*130.00*	*195.00*	*280.00*
Total Cash Volume	***12,306* k**	***51,605*k**	***109,350k***	***220,424k***	***512,726k***
Direct REVENUE					
Deductible fee for ordinary payment	*0.5%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*
*Deductible fee for micro-payments **	*46k*	*258k*	*421k*	*337 k*	*545k*
*Receivable fee from Bank **	*1.4%*	*1.4%*	*1.4%*	*1.4%*	*1.4%*
*Micro crediting by customer behavior ****				*176,339*	*410,181*
Total revenue from payments	***276k***	***1,110k***	***2,288k***	***4,280k***	***10,016k***
Direct EXPENSE					
Top-up fee*****	*2.3%*	*2.0%*	*1.8%*	*1.6%*	*1.4%*
Total expense for top-up	***277k***	***1,000k***	***1,915k***	***3,399k***	***6,873k***
Profit (Loss) (in K)	(0.9) k	109k	373k	881k	3,143k
Cumulative Revenue for the Total Period					**4,505 k**

Starting from the second stage, the service fee will be applied for the usage. The different pricing strategy will be applied based on the amount of payment. The payment below 10 AZN, 0.05 AZN will be applied to each payment and the amount of the above 10 AZN the 5% of the total payment will be deducted as the payment fee.

The next 5-period feasibility analyses were based on different assumptions, and in the last fifth and sixth period, the additional micro crediting service will be introduced according to customer behavior. Meanwhile, it is also planned to include the QR payments availability to the service in Y 2022.

The main items of long-term business feasibility estimations were indicated below.

* Deductible fee calculated based on the assumption that the payment of subscribers below and above 10 AZN will be changed respectively and gradually the amount above 10 AZN will be increased.

**The receivable money from 70% of the money collection share which will be paid back from Pasha Bank

*** Calculation based on the assumption that Micro credits will be given 10% of customers who generate a big proportion of the monthly money transactions.

**** Based on the increase in money transaction from MFS the money collection from other resources will be reduced, and consequently, the overall money collection cost will be declined.

Even though in the first and the second-period company will get the negative revenue but starting from the third-period company will start to get the positive bottom line, and with the increase of customer acquisition and the payment usage company will receive the substantial revenue increase. Consequently, the service will be favorable in the long run and will be considered as a new revenue stream with the growth of economies of scale.

Supplementary Actions.

In addition to the critical parameters of the service, some additional layout was contemplated. In order to sustain the high ARPU customers loyalty to Azercell, it is planning to add the service as free of charge add-on service in some campaigns. Another action is considered for the decrease of top-up fee costs by reducing the indirect costs and attracting the high commission merchants.

10.8. Project Development Team Responsibilities.

For the elimination of any delay and miscommunication during the service deployment, the service development process will be conducted through the project management team. The process of project development was planned beforehand, the action plan based on roles and responsibilities, and the project timeline was scheduled accordingly. The project is being led by Finance, and Consumer Business Unit departments and the Information Technology department will assist in the process of deployment. The related department directors assigned the project manager and team members. The primary responsibility of the project manager is the monitoring of all stage of the service development, report to the project board, and conduct the external communication with Pasha Bank correspondingly.

Nevertheless, the internal service implementation will be proceeded by the consumer business unit department, mainly project is being managed by the Finance department, and Finance Treasury Manager will lead the project management team. The initial steps of the project have already initiated. The communication with Pasha bank, the partnership conditions, and overall the financial feasibility and estimation was evaluated and approved by the steering committee that includes the Financial, Technical, and Commercial departments' senior managements. The none disclosure agreement was signed between Azercell and Pasha bank in the first stage discussion. However, the framework agreement details should be signed before the service development process. Now the details of the agreement are under discussion between parties. After finalizing the agreement signing process, the service development will be proceeded by the product development manager. The product design and implementation stage will be managed by the product development team and the technical department dedicated product developer. The IT department product developer will be responsible for the development of application and making the required modifications in the billing system. After the finalization of the service design and implementation

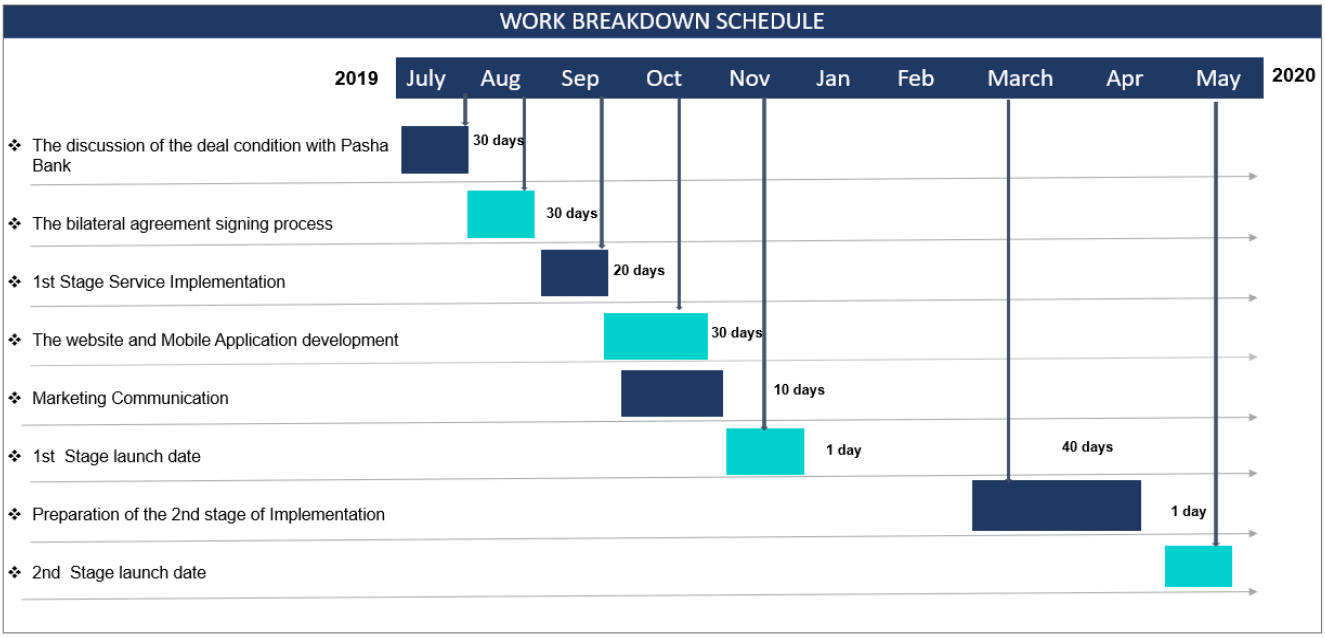
by the technical department, the product development specialist will conduct the service marketing communication activities with Marketing Communication team member. After the finalization of all marketing communication activities, the commercial launch date will be confirmed and appointed accordingly. After the commercial launch, the financial team member will collect the monthly data and proceed the reconciliation with Pasha bank.

The Project development process with dedicated team members responsibilities for each action and the work schedule for the appropriate time for the step, as indicated in the below tables.

Figure 49.Project Development Process

MFS PROJECT MANAGEMENT										
Project Board	**Finance Department Director / Consumer Business Unit Director**									
Responsibilities	**Project Leadership**				**Project Team Members**					
	Finance Treasury Manager	CBU/ Product Development Manager	Business Intelligence Manager	Steering Committee	Finance Treasury Specialist	IT product development Specialist	CBU/Product Development Specialist	IT Product developer	Business Intelligence division expert	Marketing Communication Specialist
Communication with Pasha Bank	✔									
The signing NDA agreement					✔					
Defining the partnership conditions	✔	✔								
Overall Feasibility Estimation	✔	✔							✔	
The project approval	✔	✔	✔	✔						
The bilateral agreement signing process	✔				✔					
Submission of request							✔			
Deployment of the service						✔				
Testing process						✔				
Development of the website and Mobile Application		✔					✔	✔		✔
Marketing Communication							✔			✔
Pre-launch Testing						✔	✔			
Appointing the 1st Stage launch date	✔	✔					✔			
Monitoring the monthly results							✔		✔	
Monthly Reconciliation with Pasha Bank					✔					
Evaluation of the Business Analysis for the 2nd stage	✔	✔	✔						✔	
The 2nd stage condition`s approval	✔	✔	✔	✔					✔	
Renewing marketing communications							✔			✔
Appointing the2nd Stage launch date	✔	✔					✔			

Figure.50 Project Timeline



10.9 Ethical Compliance of the MFS.

The ethical compliance composes the principal guideline of any service or product development. The alignment of the service peculiarities with ethic compliances enables the effectiveness and efficiency of the service utilization and prevent any unprecedented obscurities in the service deployment process. In the execution of MFS, the key objectives of ethical compliance must be followed.

- Appropriate design
- Efficiency
- Simplicity
- Excellency
- Privacy

The accomplishment of service deployment must be performed inefficiently, and in order to eliminate any imperfection in service deployment, all particular testing must be finalized before the commercial launch. Besides the technical accuracy, the service design and the utilization instructions have to be structured in the elucidate way for customer understanding. The mobile payment information of any customer will be kept private and be available only for Azercell and Pasha Bank correspondingly.

Conclusions.

This Business Consultancy project is not applicable to the broader concept. It mainly evaluated the opportunity of the launching MFS in Telecom Industry based on the current environment.

Considering the main research objective of this BCP, which is the evaluation of the opportunities and threats of entering the MFS market for “Azercell Telecom” in order to increase revenues and improve market position, two business models (1st and 2nd stages) have been reviewed during the research process.

According to the first business model, which was based on the short-term period of 6 months, all three participants of the project: “Azercell Telecom”, Pasha bank and Data Clearing Center (DCC) are not focused on the revenue creation in such a short timeframe, rather concentrating on the customer acquisition.

The 1st stage is presumed to increase MFS awareness of the potential customers and maintain the customer base for the 2nd stage long-term business model. While, the 2nd model designated for the long period of time is mainly aimed at the generating of the additional revenue stream for the Company, strengthening of customer retention, reducing the costs of the money transaction process.

Despite that according to the financial feasibility projections, in the first and second periods (each period with a duration of 6 months) company will not gain any revenue, which is expected to be generated after acquisition of the extensive customer base in a 1-year period - when “Azercell Telecom” will experience a significant growth of revenue. Consequently, the service will be beneficial in the long run period and will be considered as a new revenue stream with the growth of economies of scale.

Furthermore, for assessment of the expected success of the deployment of mobile financial services in “Azercell Telecom”, quantitative (questionnaires) and qualitative (external and internal interviews) analysis techniques were implemented to determine the customer demand of the services.

All interview respondents underlined the improving financial literacy of customers as a share of online payments made through mobile applications, and web platforms are increasing.

Meanwhile, questionnaires results revealed the preferable payment tools for mobile bills and utility expenses. The majority of respondents make mobile utility payments via online payment portals and use mobile applications for this purpose. Moreover, the evaluation of completed questionnaires’ results revealed detection of preferred methods of the fulfillment of all expenditures (mobile bills, utility expenses, and other service and good purchases) by potential customers via mobile application as part of mobile operator service.

Furthermore, the supportive position of the government and favorable environment for MFS development will facilitate the progress of this service in Azerbaijan. Thus, the conclusion of launching MFS by “Azercell Telecom” in the long-term perspective is reasonable after weighing all the advantages and disadvantages of this opportunity for the time being.

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Appendices

Appendix 1

List of Questions for representatives of Banks.

1. Organization
2. Name
3. Position
4. Experience
5. Your position in B2B and B2C market. The number of you B2B and B2C clients and market share
6. How do you estimate the Financial sector in Azerbaijan? Is it becoming more competitive?
7. How the recent changes in finance legislation on digitalization affected the performance of the bank?
8. What transactions forms were done through your bank account? Cash or Cashless payments
9. What payment methods your customers use to pay credits? (cash at the office, online payments)
10. Are you satisfied with your current product portfolio?
11. Are you planning to increase the product range?
12. Do you think online payments systems impact your market position?
13. If yes, what are you doing to mitigate this implication?
14. What are your plans for Mobile Banking?
15. Have you launched mobile app and what services are provided by app?
16. Do you consider the contactless payment system implementation in the nearest future?
17. If no, please explain the reason?
18. If yes, what do you think how much time you will require for the launching contactless payment system?
19. How do you assess the financial literacy of your customers? Do you think are they ready for the digitalization of payments?

List of Questions for representatives of Online Payment Portals (Goldenpay, Azericard, Azerpost, HOP, etc.)

1. Organization
2. Name
3. Position
4. Experience
5. Your position in B2B and B2C market. The number of you B2B and B2C clients and market share

6. How do you estimate the Financial sector in Azerbaijan? Is it becoming more competitive?
7. How the recent changes in finance legislation on digitalization affected your performance in the market?
8. What type of payments are used by your customers? (telecommunication bills, utilities, penalties, etc.) Please provide the breakdown in percentage.
9. Are you planning to increase the range of services provided to your customers?
10. Do you think the online payments systems are popular in Azerbaijan?
11. Whom do you consider as a competitor?
12. Do you consider banks as competitors in terms of mobile payments?
13. If yes, what are you doing to mitigate this implication?
14. Do you have mobile app?
15. If no, please explain the reason?
16. How do you assess the financial literacy of your customers? Do you think are they ready for the digitalization of payments?

Appendix 2.-Questions (Survey)

Questionnaire protocol

- To identify the of MFS service user portfolio.
- To define the MFS preference over traditional payment systems,

During questionnaire the anonymity of respondents were kept, and questionnaire was conducted based on the following questions.

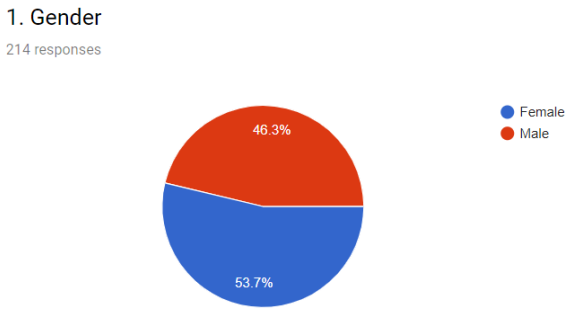
	Gender
	Female
1	Male
	Age
	20-30
	21-40
	41-50
2	Greater than 50
	Marital Status
	Married
	Single
3	Divorced
	Employment Status
	Full-time work
	Part-time work
4	Unemployed
	Your net monthly approximate income
	Below 1000 AZN
	1000-3000 AZN
5	3000-10000 AZN
	Do you use a smartphone?
	Yes
6	No
	Which mobile operator do you use?
	Azercell
	Bakcell
	Azerfon (Nar)
7	At least 2 numbers from different mobile operators
	Do you have a bank account?
	Only Salary account
	Several accounts in one Bank
	Several accounts in different Banks
8	No bank accounts
	Do you use a bank plastic card?
	Only for cash-out
	For online and mobile payments
9	For Pos-terminal payments

	No plastic cards
10	**Which top-3 Azerbaijani banks are the best by service level and level of customer orientation by your opinion?**
	1st Place
	2nd Place
	3rd Place
11	**Are you active credit user?**
	Have a regular credit payment
	Use a credit line
	Have a mortgage credit
	Do not have a credit and do not use any credit line
12	How can you assess your overall "trust level"?
	Trust Bank(s)
	Trust Mobile Operator(s)
	Trust Bank(s) and Mobile Operator(s)
	Do not trust both Bank(s) and Mobile Operator(s)
13	How do you usually pay your phone bills and utilities?
	By cash in bank branches
	BY cash terminal or ATMs
	Online payments (internet)
	By mobile device via any application (Mobilbank, hesabaz, etc.)
14	**Which online payments systems do you use?**
	Hesab.az
	Hokumet Odenish Portali
	Azericard
	Azerpost
	Other
	I do not use any
15	**Do use Azercell Mobilbank service?**
	Yes
	No
	Have no info about this service
16	**How do you assess possibility of payments from your mobile number balance directly? It can be utilities, phone bills, parking, shopping etc.**
	It will be useful for micropayments (utilities etc. up to 50 AZN)
	It will be useful for app payments Appstore, Playmarket, etc.
	It will be useful for different payments
	I`m not interested
	I do not understand what it is
17	**Are you willing to pay for the service mentioned in Question 16?**
	Yes , as %of a payment amount, For instance 0.5%-1%
	Yes, a fixed fee 0.20-0.50 AZN
	No any charges
18	**How do you assess possibility of money transfers from your mobile number to another one within the country? (cash-out is also possible)?**
	It will be useful

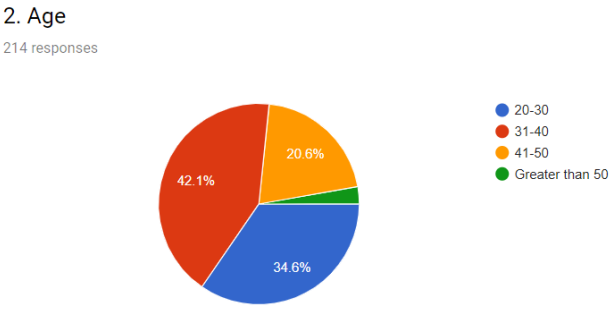
	It will not be useful
	I`m not interested
	Are you willing to pay for the service mentioned in Question 18?
	Yes , as %of a payment amount, For instance 0.5%-1%
	Yes, a fixed fee 0.20-0.50 AZN
	Yes, for cash-out only
19	No any charges
20	**Any comments or suggestions about mobile financial services?**

Questionnaires Results.

Question1.



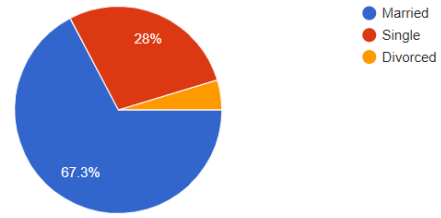
Question2.



Question 3.

3. Marital Status

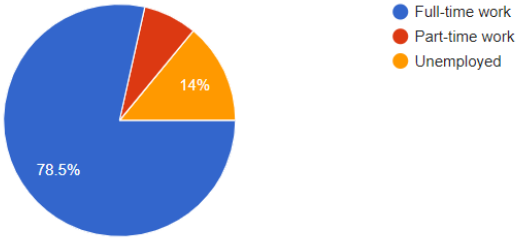
214 responses



Question.4

4. Employment Status

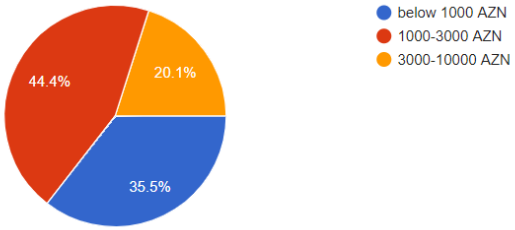
214 responses



Question.5

5. Your net monthly approximate income

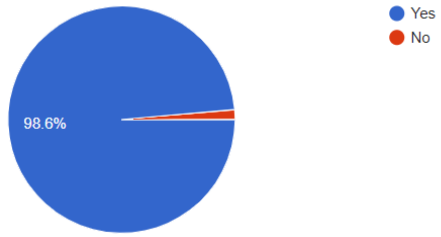
214 responses



Question.6

6. Do you use a smartphone?

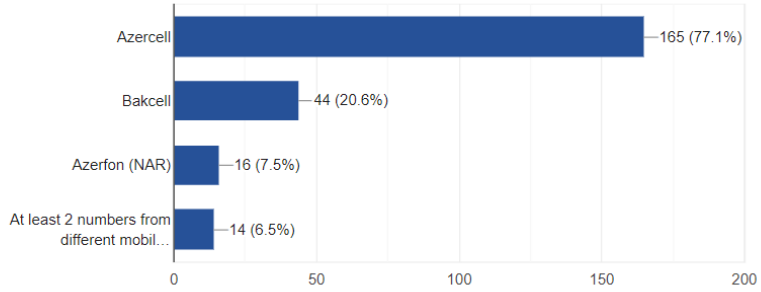
214 responses



Question.7

7. Which mobile operator do you use?

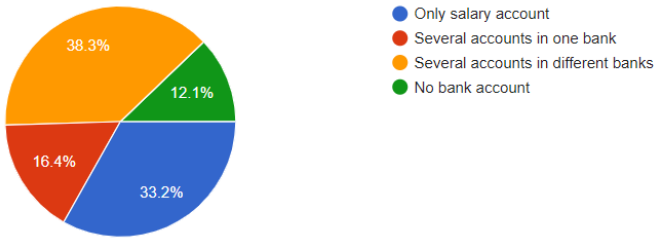
214 responses



Question.8

8. Do you have a bank account?

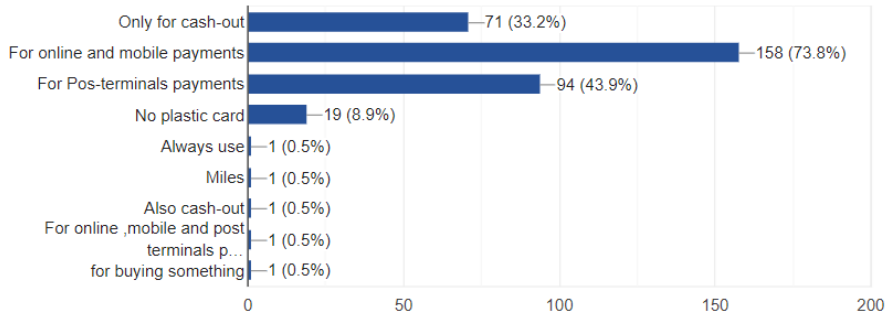
214 responses



Question.9

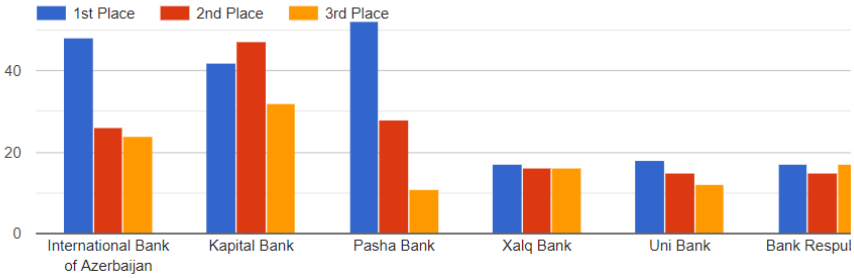
9. Do you use a bank plastic card?

214 responses



Question.10

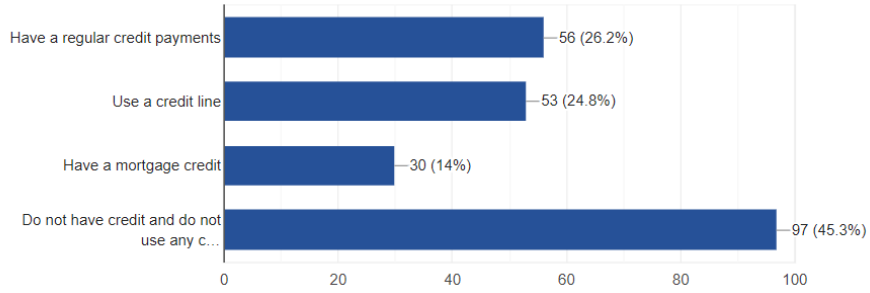
10. Which top-3 Azerbaijani banks are the best by service level and level of customer orientation by your opinion?



Question.11

11. Are you active credit user?

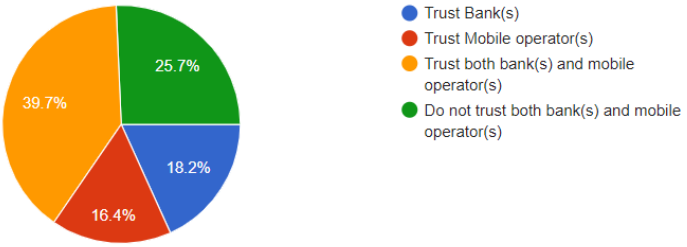
214 responses



Question.12

12. How can you assess your overall "trust level"?

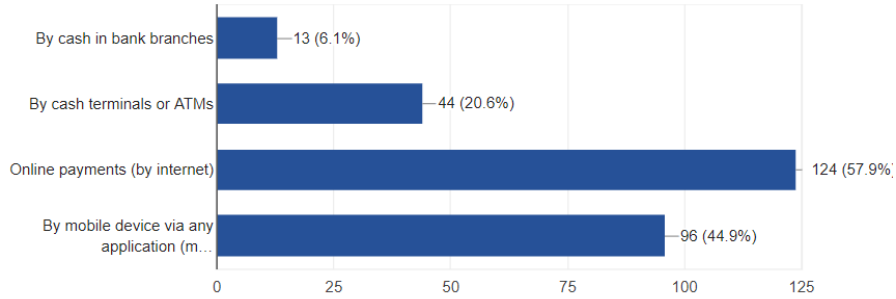
214 responses



Question.13

13. How do you usually pay your phone bills and utilities?

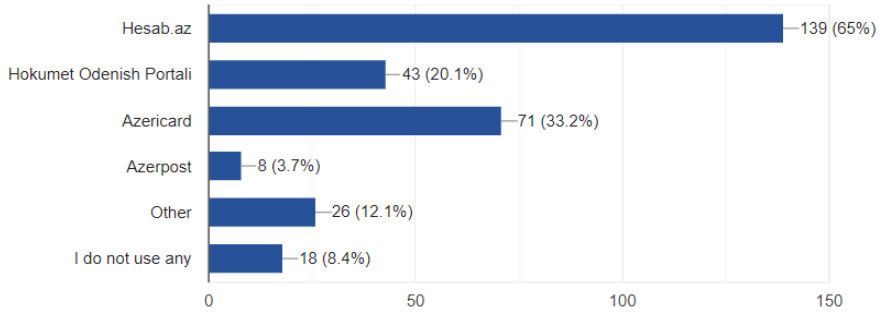
214 responses



Question.14

14. Which online payments systems do you use?

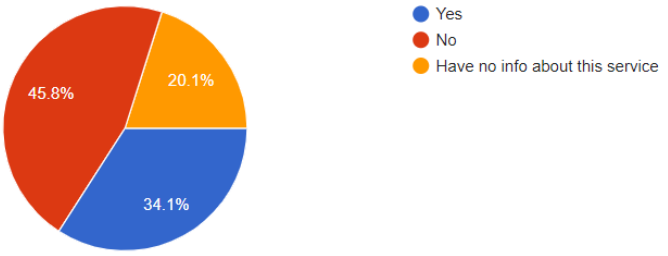
214 responses



Question.15

15. Do use Azercell MobileBank service?

214 responses



Question.16

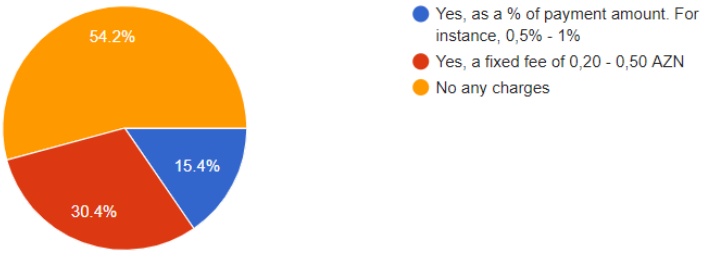
16. How do you assess possibility of payments from your mobile number balance directly? It can be utilities, phone bills, parking, shopping etc.

214 responses

Question.17

17. Are you willing to pay for the service mentioned in Question 16?

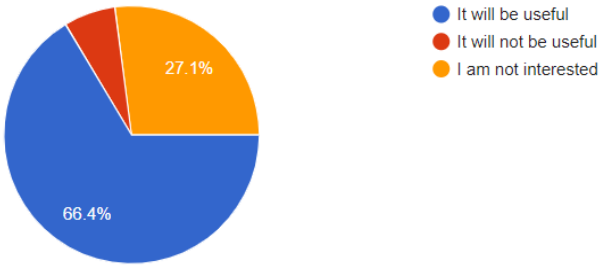
214 responses



Question.18

18. How do you assess possibility of money transfers from your mobile number to another one within the country? (cash-out is also possible)?

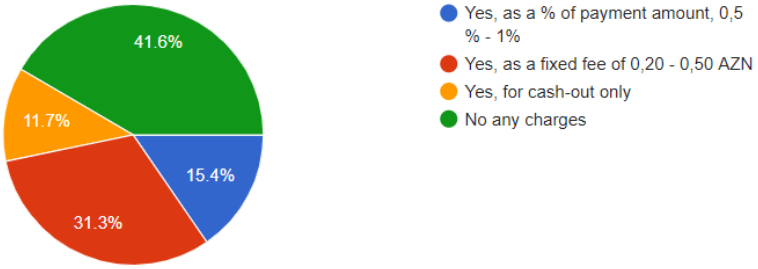
214 responses



Question.19

19. Are you willing to pay for the service mentioned in Question 18?

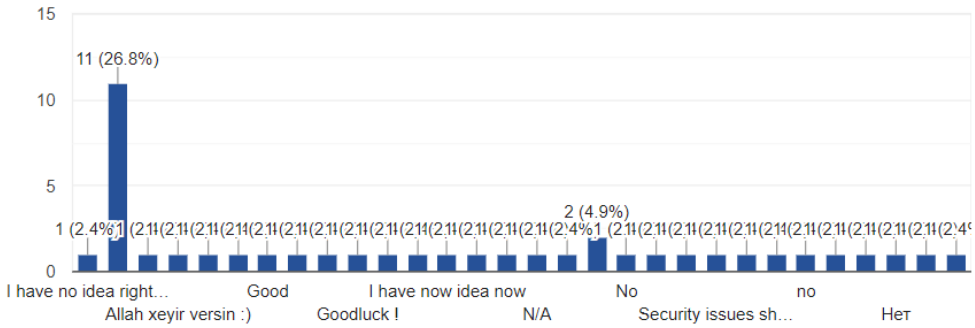
214 responses



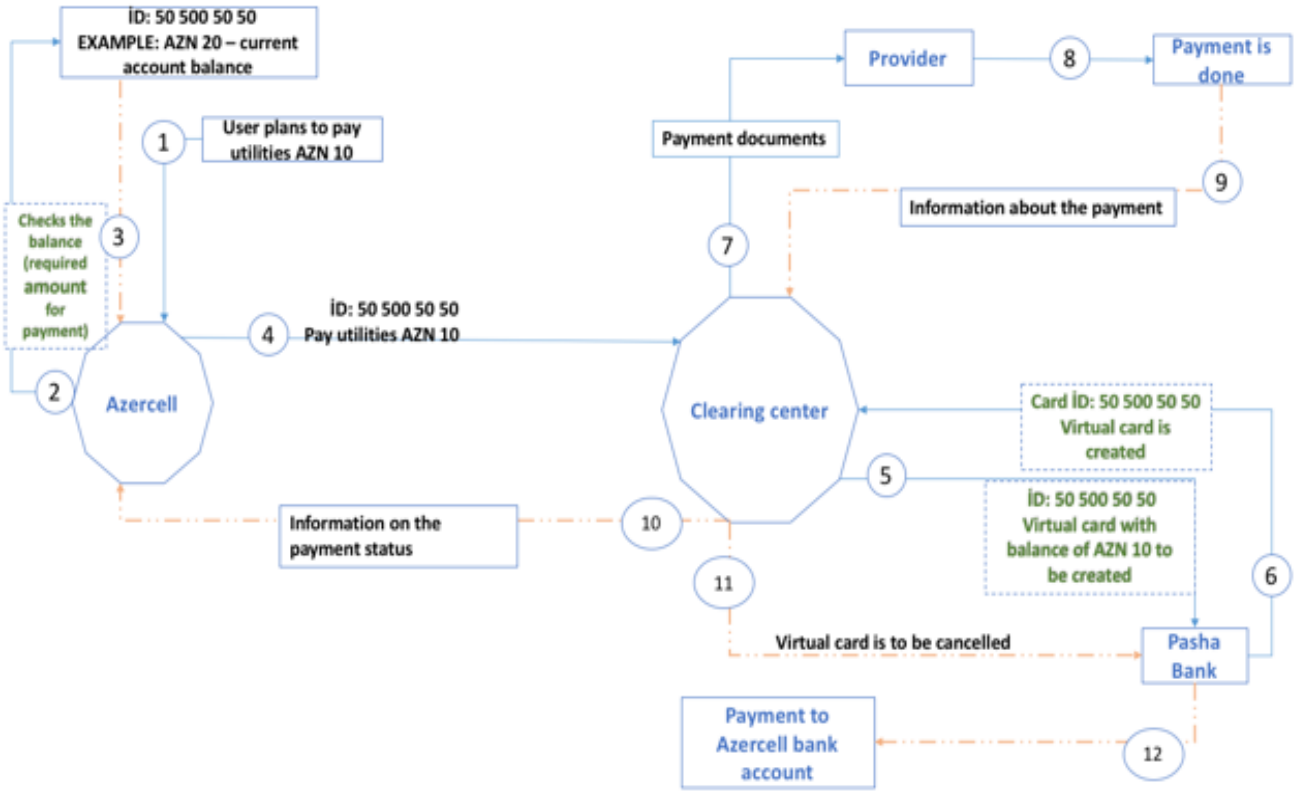
Question.20

20. Any comments or suggestions about mobile financial services?

41 responses



Appendix.3


İD: 50 500 50 50
EXAMPLE: AZN 20 – current account balance
1
User plans to pay utilities AZN 10
Checks the balance (required amount for payment)
3
2
Azercell
4
İD: 50 500 50 50
Pay utilities AZN 10
Clearing center
Provider
8
Payment is done
Payment documents
9
Information about the payment
7
Card İD: 50 500 50 50
Virtual card is created
5
İD: 50 500 50 50
Virtual card with balance of AZN 10 to be created
6
Information on the payment status
10
11
Virtual card is to be cancelled
Pasha Bank
Payment to Azercell bank account
12