Czech University of Life Sciences Prague

Faculty of Economics and Management

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Bachelor Thesis

User satisfaction with digitalization of tax administration in the Kyrgyz Republic

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Objectives of thesis

The main objective of the thesis is to evaluate user satisfaction with digitalization of the tax system in Kyrgyzstan.

Partial goals of the thesis are:
-To evaluate the current state of the tax system in Kyrgyzstan.
-To conduct a survey about digital tax administration.
-To analyze survey results, interpret the findings and make a conclusion.

Methodology

Methodology of the thesis is based on the study and analysis of information resources, field study and practical part. A survey among users of the Tax Service will be administered and its results will be statistically analyzed, interpreted, and contrasted with the results of other studies. Based on findings and results of the practical part, final conclusion will be formulated.

The proposed extent of the thesis

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BERG, Gunhild, et al. Fintech in Europe and Central Asia. 2020.

GAFUROVNA, Djuraeva Komila; ALISHEROVNA, Usmanova Aziza. The ways of improving the rendering of electronic state services to taxpayers. International Journal of Management, IT and Engineering, 2018, 8.5: 79-95.

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Declaration

I declare that I have worked on my bachelor thesis titled "User satisfaction with digitalization of tax administration in the Kyrgyz Republic" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break any copyrights.

In Prague on date of submission _____

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User satisfaction with digitalization of tax administration in the Kyrgyz Republic

Abstract

The main objective of the thesis is to evaluate users‘ satisfaction with the digitalization of the tax system in Kyrgyzstan. The research consists of two parts: theoretical and practical sections.

In the theoretical part, detailed overview of topics, such as user satisfaction, digitalization, tax administration, taxes administered in Kyrgyzstan, tax audit, etc, were introduced. Based on the theoretical part, tests were conducted in the practical part to identify the tax system‘s strengths and weaknesses using SWOT analyses.
The practical part of the thesis consists of a survey among tax system users in the Kyrgyz Republic. The hypotheses were forwarded and statistically tested using the Normality and Kruskal-Wallis tests. Finally, a conclusion has been formulated using both practical and theoretical parts.

Keywords: Tax service, automation, efficiency, satisfaction, government, tax policy, tax system, taxes, digital economy.

Spokojenost uživatelů s digitalizací daňové správy v Kyrgyzské republice

Abstrakt

Hlavním cílem práce je zhodnotit spokojenost uživatelů s digitalizací daňového systému v Kyrgyzstánu. Výzkum se skládá ze dvou částí: teoretické a praktické části.

V teoretické části byl představen podrobný přehled témat, jako je spokojenost uživatelů, digitalizace, daňová správa, daně spravované v Kyrgyzstánu, daňový audit atd. Na základě teoretické části byly v praktické části provedeny testy k identifikaci silných a slabých stránek daňového systému pomocí SWOT analýz. Praktická část práce se skládá z průzkumu mezi uživateli daňových systémů v Kyrgyzské republice. Hypotézy byly předány a statisticky testovány pomocí testů Normality a Kruskal-Wallis. Nakonec byl formulován závěr s využitím praktické i teoretické části.

Klíčová slova: daňová služba, automatizace, efektivita, spokojenost, vláda, daňová politika, daňový systém, Daně, Digitální ekonomika.

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List of abbreviations

1. US User Satisfaction
2. ICT Information and Communication Technology
3. IT Information Technologies
4. STS State Tax Service
5. STI State Tax Inspectorate
6. VAT Value-added tax
7. GDP Gross domestic product
8. ADB Asian Development Bank
9. ISNAK Kyrgyz Tax Administration Information System
10. EDS Electronic Digital Signature
11. POS Point of sale
12. SWOT Strengths, Weaknesses, Opportunities and Threats
13. UTAUT Unified Theory of Acceptance and Use of Technology
14. EEC European Economic Community
15. UN United Nations
16. CIS Commonwealth of Independent States

1 Introduction

It is important to recognize that digital technologies and the information revolution have the potential to increase efficiency, transparency, sensitivity to people's needs, and citizen trust, all of which have a direct impact on the quality of public administration.

Tax control ensures the relationship between the state and the taxpayers; the state's economic condition and security are dependent on the quality of its organization and the outcomes of its implementation.

In a modern state, the most important component that ensures the mobilization of monetary funds and an effective targeted impact on economic, political, and other spheres of social relations is the tax system.

It is well established that the digitalization of public administration increases the state's potential. The implementation of an electronic tax declaration and e-procurement system improves the government's ability to collect taxes and spend budget resources by lowering the costs associated with ensuring tax legislation compliance, increasing tax collection and competitiveness of public procurement, and decreasing corruption.

Despite the successes that are achieved, the digitalization of the tax system of the Kyrgyz Republic is still in the stage of modernization.

The State Tax Service (STS) development strategy is the introduction of automated tax administration workflows centered on the taxpayer and aimed at creating a unified information base: the creation of the electronic service "Taxpayer's Cabinet" has attracted over 100,000 taxpayers who have the option of a simplified system for filing electronic tax reports through the STS website.

Since, the number of users of the electronic tax system is increasing, the main objective of the thesis is to evaluate user satisfaction with the digitalization of the tax system in the Kyrgyz Republic.

2 Objectives and Methodology

2.1 Objectives

The main objective of the thesis is to evaluate users satisfaction with the digitalization of the tax system in Kyrgyzstan.

Partial goals of the thesis are the following:

-To evaluate the current state of the tax administration in Kyrgyzstan.
-To conduct a survey about digital tax administration.
-To analyze survey results, interpret the findings, and make a conclusion.

2.2 Methodology

The methodology of the thesis is based on the study and analysis of information resources, field study, and practical part. A survey among users of the Tax Service. Results will be statistically analyzed, interpreted, and contrasted with the results of other studies. Based on the findings and results of the practical part, a final conclusion will be formulated.

3 Literature Review

In this part, the author will focus on the literature related to the topic, which is being investigated. The literature review part provides an overview of sources, with a focus on tax administration, system description, digitalization level of the tax system in Kyrgyzstan, and the effectiveness of the digitalization.

3.1 User satisfaction

User satisfaction (US) is frequently used as a proxy for an information system's effectiveness. If an effective system is defined as one that tends to increase the company's value, then this effective system should have a positive impact on customer behavior (i.e., increase productivity, make decisions, and so on.) (Gatian, 1994).

Information system user satisfaction can be used to assess an information system's success. User satisfaction is then incorporated into the success model of an information system's development. A high-quality information system is one that meets the needs and expectations of its users, is quick to display information, is current, can be used as a consideration in decision making, and is appropriate for the desired needs. To meet the needs of a good information system, it requires a good design system as well as a good programming system that is capable of easing the user by providing and developing various facilities for accessing information. The quality of services provided by information system providers is the key to success in satisfying users of information systems (Muda & Afrina, 2019).

3.2 Tax administration

Tax administration is a set of actions of authorized state bodies and their officials aimed at implementing an effective tax policy of the country. One of the aspects of tax administration is considered to be the issue of improving the efficiency of the functioning of tax authorities, since they play a significant role in the formation of the country's budget (Anisimov, 2015). Effective functioning of the tax system in the current conditions of widespread digitalization of the financial environment is quite possible only with the use of modern information technologies based on advanced computer developments (Blednych & Solnyshkova, 2020).

The tax system is a collection of interconnected taxes levied in a country, as well as methods of taxation, collection, and use of tax revenues, and tax administration. It consists of the following elements:
participants in tax legal relations;
the system and principles of tax legislation;
tax policy principles;
the order of distribution of taxes by budget;
tax administration (tax planning, tax regulation, and control);
approach to solving the problem of international double taxation, and so on.

Taxation is an important component of economic policy, with the following main goals:

- achieving permanent sustainability of economic price growth;
- ensuring social protection of the population;
- and achieving balance in all spheres of economic activity. (Anisimov, 2015)

3.3 Tax administration in Kyrgyzstan

The Tax Service of the Republic was established as an independent agency in 1990 by a decree of the Kyrgyz Republic's Government, which became the starting point in the country's tax service's history. Prior to that, its functions were carried out by financial bodies, which are currently responsible for budget planning and execution.

The Tax Service and its structural divisions were employed by experienced financiers with extensive experience in control activities. They have made significant contributions to the establishment and growth of the tax service.

The department was renamed the State Tax Inspectorate (STI) in 1994, and it is now part of the Kyrgyz Republic's Ministry of Finance. The STI was placed under the direct control of the Kyrgyz Republic's government in 2005. The inspection was renamed the State Committee of the Kyrgyz Republic on Taxes and Duties two years later. In 2010, the Committee was renamed the State Tax Service under the Kyrgyz Republic's Government.

Today, the State Tax Service of the Kyrgyz Republic is a state executive authority that collects taxes, insurance premiums, and other budget payments and ensures their completeness and responsiveness.

Furthermore, the State Tax Service's primary responsibilities include providing high-quality tax services to taxpayers, improving the organization of tax authorities' activities, and improving tax legislation and social insurance legislation.

Currently, the Kyrgyz Republic's State Tax Service system consists of the Central Office and 60 territorial tax administrations spread across the country, employing over 2.5 thousand highly qualified employees.

In recent years, the Service has evolved significantly in terms of the quality and breadth of services offered to the public. New technologies and approaches to working with taxpayers are being implemented, and the tax administration workflow is being automated.

An anti-corruption policy is being implemented in a systematic manner with the goal of eradicating corruption and identifying its sources, as well as neutralizing factors that foster the manifestation and growth of corruption. There is a "helpline" for providing feedback on the Tax Service's activities. Collaboration with public organizations dealing with anti-corruption issues has also increased. All of this adds up to an effective anti-corruption strategy in the tax system.

The Kyrgyz Republic's first Tax Code was enacted in 1996. Tax legislation first appeared in Kyrgyzstan, ahead of many former Union republics.

A new version of the Kyrgyz Republic's Tax Code has been in effect since January 1, 2009. The new Tax Code reduced the number of tax types from 16 to 8. (6 national taxes and 2 local taxes were established, and special tax regimes were introduced to simplify taxation for small businesses). The value-added tax (VAT) rate has been lowered from 20% to 12%. The rates of income tax, income tax (from 30% to 10%), and the maximum tax rate for non-residents (from 30% to 10%) have also been reduced significantly.

The Tax Code is constantly being updated to reflect changing conditions and needs of the time. The Code's amendments and additions are aimed at creating an effective taxation system that is convenient for taxpayers to pay taxes and report on, as well as ensuring tax revenues to the revenue side of the country's budget.

A number of new amendments to the Tax Code were made in 2015 and 2016 in connection with Kyrgyzstan's accession to the Eurasian Economic Union.

Tax collection

One of the Tax Service's primary responsibilities is to replenish the state budget through the collection of taxes and other payments. The reforms implemented in the republic's tax system have allowed for qualitatively improved tax administration, which has also influenced tax collection, the amount of which is increasing annually.

So, if 11.3 million soms in taxes were collected in 1990, 2.4 billion soms in 1995, 5.5 billion soms in 2000, 8.7 billion soms in 2005, and 26.3 billion soms in 2010. In 2014, 42.2 billion soms of taxes were collected; in 2015, more than 50 billion soms were collected; and in 2016, 67.5 billion soms of taxes were collected.

Thereby, tax collections have increased 25 times in the last 20 years.

In order to effectively proceed the reform of tax administration and modernization of the tax service, a Strategy was implemented for 2012-2014, then for 2015-2017. The Tax Service was successful in achieving the statement's goals, including increased STS efficiency, customer orientation development, and increased tax collection potential.

Within the framework of the tax administration modernization project, which was implemented with the assistance of the Asian Development Bank (ADB), a set of basic modules of the Kyrgyz Tax Administration Information System (ISNAC) was introduced, and the tax service's infrastructure was updated.

The transition to the functional principle of operation was carried out as a result of the modernization of the department's organizational structure. The tax administration workflow has been automated, and new types of services for taxpayers have been created, including a call center, a website – www.sti.gov.kg – and service centers that operate on the principle of a "Single Window" for servicing taxpayers.

New tools have been introduced to make it easier for taxpayers to fulfill their tax obligations. There is, in particular, a system of electronic filing of tax returns through the STS website that is completely free of charge, both with and without the use of an electronic digital signature (EDS).

Taxpayers are increasingly using innovative tax payment methods, using payment and POS terminals, as well as Internet payment systems, to pay their taxes (Internet and mobile banking, electronic payments).

These and other tax services have elevated the STS's work to a qualitatively new level, expanding the service's analytical capabilities and automating data exchange with other ministries and departments within the E-Governments framework.

3.4 Taxes administered in the Kyrgyz Republic.

Each country imposes a wide range of taxes and fees, which differ in both name and method of collection. Individual country taxes are frequently similar in name, but they do not significantly coincide in terms and details of a fundamental nature. In this regard, the study of different countries' tax systems and their comparative analysis require compliance to general principles and rules governing the grouping and classification of tax payments.
A tax is an obligatory, individual gratuitous financial payment imposed by the Kyrgyz Republic's tax legislation on a taxpayer (Sarybajev, 2021).

3.4.1 National taxes

National taxes are taxes that are mandatory to be paid throughout the territory of the Kyrgyz Republic. The payment of national taxes is obligatory across the Kyrgyz Republic's territory (Sarybajev, 2021).

The national taxes include:

3.4.1.1 Income tax

Income tax is a type of direct tax. Citizens are obliged to pay income tax to the state treasury. Income does not always refer to money earned in the form of a salary. It also includes income from real estate, business profits, professional gains (such as bonuses), capital gains income, and income from other sources. This also applies to non-resident citizens who earn money on the country's territory. Corporate income tax is paid by legal entities (York, 2021).

3.4.1.2 VAT

Value-added tax (VAT) is a type of indirect tax. It is included in the product's price and is assumed to be paid by the buyer of this product. In reality, the buyer gives the money to the company or sole proprietor, who transfers the VAT to the budget and reports it to the tax service (Poniatowski, Śmietanka, Durán-Cabré, Bonch-Osmolovskiy, & Esteller-Moré, 2018).

3.4.1.3 Excise tax

Excise tax is a type of indirect tax on goods; it is a surcharge that is incorporated into the price of goods to regulate demand. The excise tax, like VAT, is paid by the final buyer, and the company-seller of this product only transfers funds to the government (Royo-Bordonada, Fernandez- Escobar, Simon, Sanz- Barbero, & Padilla, 2019).

3.4.1.4 Taxes for the use of mineral resources

Mineral resource taxes are a national tax in the Kyrgyz Republic, and they include: 1) bonuses, which are one-time payments for the right to use the subsoil for prospecting, exploration, and development of mineral deposits; and 2) royalties, which are current payments for the use of subsurface resources for developing mineral deposits and/or extraction (extraction from the subsurface) of groundwater (Yuldashev & Sahin, 2016);

3.4.1.5 Sales tax

Sales tax is also a type of indirect tax (consumption tax) paid on buyers when they buy products or services. Sales tax is often calculated as a percentage of the value of the products (services) sold (Horpedahl & Smith, 2019).

3.4.2 Local taxes

Local taxes are taxes imposed by local keneshes through regulatory legal acts and are required to be paid in the territories of the relevant administrative-territorial units (Sarybajev, 2021).

Local taxes include:

3.4.2.1 Property tax

Property tax is a direct tax levied on the assets of businesses or individuals. Individuals who own: a private building; residential areas (apartment, room); or a commercial property must pay the property tax (Stähler, 2019).

3.4.2.2 Land tax

Land tax is a mandatory payment that is levied as part of the property tax and is levied in the form of land tax or rent for state and municipal property land plots (Dobšinská, Báliková, Balážová, Valent, & Salka, 2021).

3.5 Advantages of the tax system in developing countries

Taxation is a common method for the government to intervene in economic development. Taxation is an important component of economic policy, with the following main goals:

- achieving permanent stability of economic price growth;
- ensuring population social protection;
- and achieving balance in all spheres of economic activity.

The tax is an economic category because the state's monetary relations with legal entities and individuals are objective and serve a specific social purpose – the mobilization of funds at the state's disposal (Gomes, 2018).

Most countries' tax systems have evolved over centuries as a result of various economic, political, and social factors. As a result, it is quite natural for different countries' tax systems to differ from one another: in terms of the types and structure of taxes, their rates, methods of collection, fiscal powers of authorities at various levels, scale, and various benefits provided, and a variety of other important features. As a result, the tax is a mandatory amount of money set by the state. The tax systems of various countries are formed by the payment of various types of taxes that individuals and legal entities receive as income (Gomes, 2018).

3.6 Disadvantages of the tax system in developing countries

The tax system is now one of the most important tools for regulating the economy and the social sphere because it allows the government to influence the distribution of national income. Compliance with certain criteria, requirements, and taxation principles ensures the effectiveness of the tax system. Despite the current economic conditions, developing countries' tax systems have some weaknesses (Shakirova , 2020)

Disadvantages of the tax system:

- Insufficient wage accounting
- Inefficient tax administration
- Unequal distribution of tax revenues
- Lack of investment climate, corruption issues
- Lack of reliable statistical data
- Lack of tax audit
- Lack of tax monitoring

3.7 Digitalization

The term "digitalization" have been entered in 1995 by Nicholas Negroponte, a Massachusetts Institute of Technology researcher and the brother of former Deputy Secretary of State and Director of National Intelligence John Negroponte. N. Negroponte compares atoms and bits as the smallest particles in the material and digital worlds, respectively, in his book "Being Digital." In his opinion, what is made up of atoms will eventually be able to be added up from bits (Branca, et al., 2020).

The essence of digitalization is the active introduction and practical application of digital technologies for collecting, storing, processing, rearranging, and transmitting data in all spheres of human activity (Bloomberg, Digitization, Digitalization, And Digital Transformation, 2018).

Digitalization refers to the widespread digitalization in various areas of life, such as industry, economy, education, culture, and service. This phenomenon is the result of the rapid development of information technologies, microelectronics, and communications in the majority of the world's countries. Digitalization is a global process that is increasingly subjugating the planet and even the space beyond it (Branca, et al., 2020).

- Digitalization means the creation of a new digital product. And digitalization enables you to achieve a significant business breakthrough as well as new competitive advantages.

Digitalization has already become a component of the Fourth Industrial Revolution (Industry 4.0). In turn, digitalization is a process that aims to digitize all information (and even material) resources (creating digital copies) and form network platforms for interaction in order to achieve a predictable and guaranteed result for any control action using automation tools (Bloomberg, Digitization, Digitalization, And Digital Transformation: Confuse Them At Your Peril, 2018).

3.7.1 Digital economy

Digitalization is one of the key directions of changing the economy around the world. The World Bank interprets digital changes as "a new paradigm of accelerated economic development". Such projected mass changes are guided by the fact that in many countries of the world the infrastructure of the digital economy has been formed, national broadband networks have been built on the principles of public-private partnership (84% of the world's inhabitants have access to broadband Internet). In addition, the developed and developing countries of the world have already moved to the stage of regulation and development of the digital environment, to increase the efficiency of the applied use of information and communication technologies and digitalization of all aspects of the life of the country, business and society (F. G. Myshko, 2019).

The digital economy represents a certain level of development of the system of social reproduction, characterized by a high quality of information and communication structure that provides the probability of integration of all economic entities into the whole information space and the effective use of digital technologies in the interests of all subjects of economic relations. This interpretation of the" digital economy " allows us to convey the deep content of this term, abstracting from a set of less significant attributes that complicate the understanding of its true meaning. In parallel with the category "digital economy", the category "digital transformation" is widely used in scientific circulation, which is considered in the form of a process of purposeful transition of a socio-economic system of a particular level to a digital economy model in the context of a conscious strategy for digital reconstruction of the system itself and its components (Katasonov, 2019).

3.8 Digital public services and e-government

Horan & Gronlund, define e-government as "web-based technologies, Internet, network, and mobile computing with the goal of changing communication and relations between government, citizens, and enterprises." (Horan & Gronlund, 2005)
The goal of e-government is to make it easier to get information or services in a shorter period of time, to improve service delivery and effectiveness, to lower expenses, and empower people by bringing them closer to the government. Users and the government can communicate in a variety of ways, including obtaining information, filling out forms, making payments, leaving online comments, and so on (Hasan, et al., 2019).

Traditional bureaucratic organizational structures are being replaced by e-government projects in an era of digital revolutions. Information and Communication Technology (ICT) has allowed for a reduction in administrative costs while also utilizing technology's huge potential for more efficient public services. The government uses ICTs to deliver digital public services (also known as e-government) to citizens. Income tax declarations, notice, and assessment is examples of digital public services, as are birth and marriage certificates, renewing a driver's license, and other types of permission and license requests and delivery. The government may distribute information and services to residents at anytime, anywhere, and on any device or platform by using digital services (Menezes, et al., 2020).

Digital service uptake in the public sector is complicated and difficult, especially in developing countries. This is caused by government inefficiencies, a scarcity of competent human resources, a lack of ICT infrastructure, poverty levels, and a huge local population. To fully exploit the potential benefits of e-government, many developing countries have set up specific e-government programs. As service evaluation is a broad issue, the demand for a regular, constant, and effective evaluation of the supply of digital public services conflicts with the lack of transparency surrounding performance metrics (Pedrosa, et al., 2020).

Technology and data are critical for the advancement of government-civil society cooperation. Many citizens in the European and Central Asian countries do not trust their governments and believe that the decision-making process is not transparent. The data

revolution and digitalization offer an opportunity to change this situation by encouraging the development of collaboration between government and civil society in order to improve the efficiency of the public sector and the delivery of public services. One of the most promising mechanisms in this regard is the open government data mechanism, which reduces the transaction costs of collecting, analyzing, and disseminating public sector data and allows for a more comprehensive understanding of the quality of public administration in general (World Bank, 2021).

3.9 Digital divide

Inequality in e-government access and prospective use among different demographic segments is a source of worry for governments and a challenge. Only some segments of the public may benefit from the new technological tools of e-government. The Diffusion of Innovations Theory Rogers, provides a strong theoretical foundation for the explanatory value of socio-demographic features in e-government usage. Early adopters of any technical innovation have similar characteristics: they are youthful, well-educated, and have better incomes. These traits are similar to those of users of e-government services (Rogers, 2003).

Another element to consider is age. According to research on the digital divide, older persons have considerable difficulties in using e-government as compared to younger people. There is a negative correlation between citizens' use of e-government and their age (Rogers, 2003).

Rural residents are frequently linked to lower levels of e-government usage and, as a result, e-participation. When it comes to access to and ownership of information technology, there are significant regional and rural/urban inequalities (Kumar, Sachan, & Mukherjee, 2017).

3.10 Approaches of measuring the effectiveness of digitalization and e-government

In the field of digitalization of public administration, a number of complex indicators are used in international practice, the most important of which is the United Nation’s (UN) E-

Government Development Index, which has been calculated every two years for all 193 member countries of the organization since 2001 (Dobroljubova, 2019).
One of the regular foundations assessing the level of development of the information society is the International Telecommunication Union's ICT Development Index, which takes into account aspects of access to ICT, use of ICT, and their skills in the field of ICT, as well as the International Telecommunication Union's global cybersecurity index, which takes into account legal, technical, and organizational measures taken to counter cyber threats (Dobroljubova, 2019).

Significant parameter of digitalization of public administration:

- online services (electronic procurement, electronic systems of interaction with tax and customs authorities, use of digital technologies in healthcare, application of the "one window" principle);
- national portal (navigation ease, interactivity, interface, technical aspects);
-electronic participation (e-government, consultations, citizen involvement in decision-making processes);
- free and open data (regulatory framework, demand for data by society, organization of work with open data) (Dobroljubova, 2019).

According to Al-Mamary, Shamsuddin, & Aziati, the UTAUT model is the most widely used in the field of technology acceptance, with a focus on technological variables for effective information system adoption (Al-Mamary, Shamsuddin, & Aziati, 2015).

In longitudinal field studies of four different organizations, Venkatesh, Morris, Davis, & Davis, tested eight models. According to a comparison of eight models, performance expectancy, effort expectancy, social influence, and facilitating conditions all have a significant influence on user intention to adopt technology (Venkatesh, Morris, Davis, & Davis, 2003). The factors underlying UTAUT are detailed below.

The Unified Theory of Acceptance and Use of Technology (UTAUT) was developed as a unified model with four basic determinants of intention and usage and up to four moderators

of critical interactions. Performance expectancy, effort expectancy, social influence, and facilitating conditions are the four fundamental conceptions of UTAUT model (Williams, Rana, & Dwivedi, 2015).

Performance expectancy - is defined as an individual's belief that using technology will improve their job performance;

Effort expectancy - is defined as an individual's belief that using technology will be easy for them;

Social influence - is defined as the use of technology influence by others;

Facilitating conditions - are defined as an individual's belief that an organizational and technical infrastructure exists to support the use of technology. (Williams, Rana, & Dwivedi, 2015)

This model is thus a useful tool for managers who need to assess the likelihood of success for new technology introductions and understand the drivers of acceptance in order to proactively design interventions (such as training, marketing, and so on) targeted at populations of users who may be less inclined to adopt and use new systems (Williams, Rana, & Dwivedi, 2015).

3.11 E-government in Kyrgyzstan

E-government is a method of providing public services and executing public functions that minimize personal contact between the state and the applicant while maximizing the use of information and communication technologies. (Chonorov, 2021)

The Kyrgyz Republic places a high value on the introduction of information technologies in order to improve the efficiency of public administration and to reduce the human factor and corruption component in the country's state bodies.

One of the primary outcomes of digitalizing public administration should be a significant improvement in the conditions under which ordinary citizens and entrepreneurs receive state and municipal services.

Electronic interaction between citizens and the state saves citizens money and time while also lowering the cost of maintaining the state apparatus. The use of digital technologies increases the transparency of interactions between businesses and citizens with officials and serves as a tool to boost public trust in the state (Savinov, Skorykh, & Torogeldieva, 2020).

The Tunduk interdepartmental electronic interaction system was designed to ensure the secure exchange of data between state agencies, local self-government bodies, and commercial organizations.

The Tunduk project aims to increase the efficiency of public administration management, significantly reduce corruption, and lower bureaucratic barriers for citizens and entrepreneurs by automating and ensuring reliable data, high-quality, and timely delivery of public services.

The project has been running in full-scale mode since 2018 and has been a success so far.

The Tunduk system is intended to improve the efficiency of interactions between public authorities, ensure the traceability of goods and services, reduce bureaucratic barriers for citizens and entrepreneurs, and reduce corruption through direct data exchange between state and municipal authorities without the need for citizens to request information (Cherikbayev, 2020).

International exposure

The Estonian information system "X-road," on which the Tunduk system is based, is currently being developed in 20 other countries. Experts estimate that Estonia's interdepartmental cooperation system saves up to 1 billion euros and 800 years of working time each year (Cherikbayev, 2020).

3.12 Digitalization level of tax administration in Kyrgyzstan

In the Kyrgyz Republic, the number of taxpayers submitting tax returns in electronic form increased by 44360 from the beginning of 2019 to 146071 as of October 1, 2019.

At the same time, 136058 taxpayers use the STS electronic service "Taxpayer's Office" – www.salyk.kg – to submit reports with a simple electronic signature, and 3357 use a qualified electronic signature. Furthermore, 6656 file tax returns through service providers.

Submitting tax returns through the "Taxpayer's Office" is convenient for taxpayers because it saves time and allows you to send reports in electronic form, including acquiring an electronic patent and using other STS electronic services.

The State Tax Service will continue to expand electronic services to taxpayers and will carry out important projects within the framework of the state's digitalization program. For example, a pilot project for issuing electronic VAT invoices has been in operation since July 1, 2019. Furthermore, since July 1, value added tax payers, importers, and exporters have been required to provide tax reporting in the form of an electronic document signed with a qualified electronic signature.

It should be noted that one of the STS's primary responsibilities is to create favorable conditions for the expansion of the cashless payment system and to introduce incentives for switching to electronic services.

The State Tax Service encourages taxpayers to use the department's modern electronic services (State Tax Administration, 2019).

Following the implementation of the electronic invoice system, there has been an increase in VAT receipts to the republic's budget, indicating a reduction in the volume of the shadow economy.

Thus, VAT on goods and services produced on Kyrgyz Republic territory for the first half of this year amounted to 7101.7 million SOM, exceeding the level of last year by 51%, or 2.4 billion SOM. In comparison to 2019, the level increased by 18.4%, or 1.1 billion SOM more.

VAT receipts on Eurasian Economic Union (EEC) imports totaled 11 billion 391.3 million soms in the first six months of 2021, 4.1 billion soms more than the same period in 2020, representing a 156.8% increase. The volume of receipts increased by 38.5%, or 3.2 billion soms, in comparison to 2019.

The "Electronic Invoice" information system has been in place since July 1, 2020. According to a decree issued by the Government of the Kyrgyz Republic on June 19, 2020, all VAT payers and entities involved in the import and/or export of goods were required to use electronic invoice.

As of July 6, 2021, 14077 taxpayers were registered in the electronic invoice information system in Kyrgyzstan, a year after the system's launch. They issued 6 million 703922 invoices for a total of 935 billion 941.1 million soms in revenue.

In the current epidemiological situation, the use of electronic invoice is an effective measure to reduce the population's contacts with the tax service and the shadow component of the market. The registration process was entirely online, and taxpayers did not need to visit the tax authorities at all. Furthermore, the electronic invoice system detects in real time attempts by individual taxpayers to issue invoices to long-liquidated entities, persons without tax registration, and other tax avoidance schemes (Press Service of the State Tax Service, 2021).

3.12.1 The work of the State Tax Service in the Kyrgyz Republic.

The State Tax Service (hereinafter referred to as the STS, the Tax Service) is one of the most dynamically developing public administrative organizations in the Kyrgyz Republic. The STS is a state agency that serves as the initial point of contact between the government and citizens or businesses. The taxpayer evaluates the quality of public administration as a whole based on the quality of services obtained from the Tax Service.

The Tax Service aims to increase the efficiency of its operations regularly. One of these causes is taxpayer requests, which are constantly increasing in terms of quality and quantity of services offered by the State Tax Service. The ever-increasing needs of society and the state for the formation of the republican budget are one important factor driving the necessity for constant development of the STS' efficiency.

As a result, the STS is constantly upgrading tax administration systems, allowing for an increase in revenue collection while maintaining the nearly same resource base. (State Tax Administration, 2019)

3.13 Tax audit

A tax audit is an audit by an audit organization of accounting and tax reports, where the goal is to form an expert opinion about the level of their reliability to the generally recognized norms of established tax legislation. The procedure for the development, formation, payment, and accounting of taxes and other payments to budgets of all levels and extra-budgetary funds are subject to verification, in addition to those provided (Benjamin C. Ayers, 2018).

Audit activity (audit services) is an entrepreneurial activity that involves the independent verification (audit) of financial statements of organizations and individual entrepreneurs (hence referred to as the audited entities) as well as the supply of related services (Amah & Nwaiwu, 2018).

The audit's goal is to build user trust in the financial statements' dependability in all material elements in conformity with the applicable financial reporting framework (Amah & Nwaiwu, 2018).

Materiality refers to the degree of accuracy of financial statement data that enables the user to draw the right conclusions about the financial and property status, as well as the results of the audited firms' economic operations, and make informed decisions based on these conclusions (Shol & Oleynik, 2020).

Audit-related services are defined as follows:

- examination of financial statements;

- performance of commitments in accordance with agreed-upon processes;

- financial information collecting and processing

Along with audit services, audit firms and individual auditors may provide audit-related services such as:

- establishing, restoring, and keeping accounting records, preparing accounting (financial) statements, accounting consulting;

- tax consulting, which includes creating, restoring, and maintaining tax records, as well as doing tax calculations and declarations;

- study of organizations' and individuals' financial and economic activity, economic and financial consultancy;

- management consulting, especially those relating to organizational transformation or privatization;

- information system audit;

- evaluate actions in compliance with the International Financial Reporting Standard and the International Standard on Auditing Standards;

- services pertaining to internal auditing;

- auditing-related training, as well as accounting, economics, and finance.

Auditing is a form of business activity that requires a license. Audit operations are licensed in compliance with the Kyrgyz Republic's licensing regulatory law statutes (Sahataeva, 2013).

3.14 Summary of main findings:

Purpose of tax administration and its challenges

The main goal of all changes occurring in the tax administration system is to construct the work of the tax service in order to create favorable conditions for taxpayers to fulfill their obligations to pay taxes and fees.

Some challenges faced by tax administration:

Organizational issues, a lack of professionals, insufficient IT infrastructure and support systems, a lack of integration conditions between administrative information systems, and flaws in the regulatory framework.

Current state of the art of tax administration in Kyrgyzstan

Currently, the Kyrgyz Republic's State Tax Service system consists of the Central Office and 60 territorial tax administrations spread across the country, employing over 2.5 thousand highly qualified employees.

In recent years, the Service has evolved significantly in terms of the quality and breadth of services offered to the public. New technologies and approaches to working with taxpayers are being implemented, and the tax administration workflow is being automated.

An anti-corruption policy is being implemented in a systematic manner to eradicate corruption and identify its sources, as well as neutralize factors that foster the manifestation and growth of corruption.

Purpose of the digitalization of public services

Globally, digitalization is a concept of economic activity based on digital technologies used in various spheres of life and production. And, without exception, this concept is being widely implemented in all countries. Open information, which changes social, political, and business processes and leads to an improvement in quality of life, is one of the indicators of

successful global digitalization. The transition to a digital economy allows citizens to access services and goods more quickly and easily.

Benefits and obstacles of digitalization and e-government

Digitalization enables to increase labor productivity, optimize management processes, remove people from risky industries, increase employee productivity and customer satisfaction, and establish a reputation as a progressive and modern organization, among other things. Some obstacles include a lack of financial resources, an insufficient level of infrastructure, and human capital development.

Major models and frameworks that can be used to evaluate public digital services and e-government

User satisfaction is a measure of how well an information system interacts with its users. It is the measure of the extent to which users believe the system meets their needs.

A model for evaluating the quality of e-government services that focuses on meeting interested parties' needs:

1. Information exchange, (for example a simple, static relationship).
2. Interaction that is both dynamic and safe.
3. The start of a well-defined data processing procedure, (such as filling out an electronic form), etc.

The purpose of the UTAUT model is to explain user intentions to use an information system as well as successive usage behavior. In other words, the UTAUT model can be used to evaluate public digital services and e-government.

4 Practical Part

The practical part of the thesis is based on a survey, data analysis, the Shapiro-Wilk and Kolmogorov-Smirnov normality tests, and the Kruskal-Wallis non-parametric statistical test for testing hypotheses based on survey data.

4.1 Research questions

R1: The implementation of digitalization of tax administration among Kyrgyz users is affected by the factors identified in the literature review.
RQ 2: Digitalization of tax administration has a positive impact among users in the Kyrgyz Republic.

4.2 Research design

The survey was conducted between users of the tax system in Kyrgyzstan. For this survey were used quantitative methods of analyses. It is important to analyze and determine the level of satisfaction of taxpayers with the online tax system. All the findings from this survey will help to provide answers to the objectives.
The survey analyzes the impact of 4 factors identified in the literature review. The factors are represented in the Unified Theory of Acceptance and Use of Technology model:

Incorporated factors are the following:

1. Performance expectancy
2. Effort expectancy
3. Social influence
4. Facilitating conditions.

The author proposed a preliminary hypothesis, that survey participants are sufficiently satisfied.

- Null Hypothesis: There is no statistically significant difference between expected and real level of satisfaction from using online tax system.

- Alternative Hypothesis: There is statistically significant difference between expected and real level of satisfaction from using online tax system.

On this survey, 136 people took a part and, survey was created to gather the necessary information. The survey questions were chosen after analyzing the literature review. Statistical analysis was performed to determine whether there is a relationship between users' responses regarding satisfaction with the tax administration system.

4.3 Data collection

The questionnaire was made in Google Forms and shared with users via WhatsApp, email, and Instagram. The survey took place in Bishkek, capital of the Kyrgyz Republic. And survey available for 10 days and gathered 136 responses.

In addition, the questionnaire was divided into two sections. The first section included demographic questions about the respondent's age, gender, qualifications, and profession, as well as how long they had been using the electronic tax system. The second section of the questionnaire outlines a part of the electronic tax system as well as customer satisfaction. In general, there are 15 questions in the questionnaire. And the researcher used a 5-point Likert scale, which ranges from 1 as strongly disagree and 5 as completely agree, and where four UTAUT model measurements were used, such as Expected Productivity, Expected Duration of Effort, Social Influence, and Facilitating Conditions. The questionnaire used terms that were fairly simple to understand so that users could easily answer questions. The survey was completely anonymous in order for respondents to confidently answer the questions.

4.4 Normality test

Shapiro-Wilk and Kolmogorov-Smirnov normality tests were conducted in order to check if survey results are normally distributed or they have a totally different distribution rather than normal. The test was performed taking into account the average of all the answers for each person individually based on 1-5 satisfaction scale. For such case, the major hypothesis was constructed consisting of Null and Alternative hypothesis to give us the comprehension of output whether we reject or do not reject any one of them while comparing P-value with the level of significance of 5%. The null hypothesis claims that data is normally distributed, whereas alternative hypothesis states that data is not normally distributed.

4.4.1 Normality test result

Tests for Normality							
Hypothesis 1	Test	df	Statistic		p Value		Result
	Shapiro-Wilk	136	W	0.77546	Pr < W	<0.0001	Reject H0
	Kolmogorov-Smirnov	136	D	0.214514	Pr > D	<0.0100	Reject H0

Table 1 Normality test result of the collected data

(Source: table made by author)

As the output in the table above reveals, p-values of both tests are much less than the significance level of 0.05, meaning that the null hypothesis is rejected in both cases and data does not follow normal distribution which would affect an approach to further hypothesis testing and users' satisfaction level evaluation.

4.5 Kruskal-Wallis Non-Parametric test

The Kruskal-Wallis non-parametric test was used for statistical analysis, with a significance level of 5%. The Kruskal-Wallis Test is an ordinal (ranked) data version of the independent measures one-way ANOVA. A hypothesis test uses sample data to determine whether the null hypothesis should be rejected.

- H0: The null hypothesis asserts that a population parameter (such as the mean, standard deviation, and so on) equals a hypothesized value.
- H1: The alternative hypothesis states that a population parameter is smaller, greater, or different than the null hypothesis's hypothesized value.

The Kruskal Wallis test will determine if there is a significant difference between groups.

All the statistical calculations were performed by SAS Studio.

4.6 Hypotheses testing

4.6.1 Hypothesis 1

Is there a significant difference in the overall level of satisfaction among male and female users?

- Null Hypothesis: There is no significant difference in the level of satisfaction between male and female users.
- Alternative Hypothesis: There is a significant difference in the level of satisfaction between male and female users.

According to the Kruskal-Wallis Non-Parametric test, chi-square value is equal to 3.6547, whilst the critical value from statistical table is equal to 3.841 based on degrees of freedom of 1 and significance level of 0.05. Following the comparison of chi-square value and critical value ($3.6547 < 3.841$), the null hypothesis is not rejected and we accept the fact that there is no significant difference in the level of satisfaction between female and male users.

4.6.2 Hypothesis 2

Is there a significant difference in the overall level of satisfaction among people of different "age" groups?

- Null Hypothesis: There is no significant difference in the level of satisfaction between people of different "age" groups.
- Alternative Hypothesis: There is a significant difference in the level of satisfaction between people of different "age" groups.

Since $\chi 2$ is greater than the critical value from the table 4, the null hypothesis is rejected and the alternative hypothesis is accepted. There is a significant difference in the level of satisfaction between people of different "age" groups with the online tax system.

4.6.3 Hypothesis 3

Is there a significant difference in the overall level of satisfaction among people of different "education degree" groups?

- Null Hypothesis: There is no significant difference in the level of satisfaction between people of different "education degree" groups.
- Alternative Hypothesis: There is a significant difference in the level of satisfaction between people of different "education degree" groups.

Results from the Appendix, showing that our statistical value is less than the critical, and we do not reject the null hypothesis. And there is no statistically significant difference in total level of satisfaction between the various "education degree" groups.

4.6.4 Hypothesis 4

Is there a significant difference in the overall level of satisfaction among people of different "professional status" groups?

- Null Hypothesis: There is no significant difference in the level of satisfaction between people of different "professional status" groups.

- Alternative Hypothesis: There is a significant difference in the level of satisfaction between people of different “professional status” groups.

We reject the null hypothesis and accept the alternative one, since the test statistics result 12.2389 is more than critical value 11.070. It means that there is a significant difference in total level of satisfaction among different “professional status” groups.

4.6.5 Hypothesis 5

Is there a significant difference in the overall level of satisfaction among people with different “time period of use of tax service website” group?

- Null Hypothesis: There is no significant difference in the level of satisfaction between people with different “time period of use of tax service website” groups.
- Alternative Hypothesis: There is a significant difference in the level of satisfaction between people with different “time period of use of tax service website” groups.

From the results, $\chi 2$ is greater than critical value, so the null hypothesis is rejected, and the alternative hypothesis is accepted. Which means that there is a significant difference in the level of satisfaction between people with different “time period of use of tax service website” groups.

4.7 Kruskal-Wallis Test results

	Kruskal-Wallis Test Chi-Square $\chi 2$	Critical value at 0.05 sig level ($\chi 2$ distribution)	df	Results
Hypothesis 1 (gender)	3.6547	3.841	1	3.6547 < 3.841 Do not reject H0

Hypothesis 2 (age)	21.5123	9.488	4	21.5123 > 9.488 Reject H0
Hypothesis 3 (degree)	3.6337	9.488	4	3.6337 < 9.488 Do not reject H0
Hypothesis 4 (prof group)	12.2389	11.070	5	12.2389 > 11.070 Reject H0
Hypothesis 5 (use period)	20.7285	7.815	3	20.7285 > 7.815 Reject H0

Table 2 Results of the Kruskal-Wallis non-parametric statistical test

(Source: table made by the author)

5 Results and Discussion

In this section, the author interprets the results of the two-part survey as well as the Kruskal-Wallis non-parametric statistical test, Kolmogorov-Smirnov, and Shapiro-Wilk normality statistical test of hypotheses. Results from the survey and SWOT analysis are described below.

5.1 Survey results

Overall, 136 people took part in the survey, with 44.1 % (n=60) male and 55.9 % (n=76) female.

The majority of respondents are over 45 years old – 33.1 % (n=45), followed by respondents aged 26-32 years old – 19.9 % (n=27), and then other age groups.

The majority of respondents - 42.6 % (n=58) have a master's degree, 36.9 % (n=50) have a bachelor's degree, 19.8 % (n=27) have a high school education, and 0.7 percent (n=1) have a PhD. Doctoral degree.

The majority of respondents use an online tax system for more than 5 years – 33.8 % (n=46), 25 % (n=34) use a tax system for 1-4 years, 23.5 % (n=32) for less than 3 months, and 17.6 % (n=24) use a tax system for 4-11 months.

Regarding respondents' professional status, the majority are state employees – 23.5 % (n = 32), followed by private workers – 23.5 % (n = 32), others – 17.6 % (n = 24), business owners – 14 % (n = 19), students – 11 % (n = 15), and self-employed – 10.3 % (n = 14).

The second section of the questionnaire addressed aspects of the online tax system as well as customer satisfaction. In this section, the author used a 5-point Likert scale, with 1 indicating strongly disagree, 2 indicating disagree, 3 indicating neutral, 4 indicating agree, and 5 indicating strongly agree. According to the survey findings, the average level of satisfaction is 4 out of 5.

Most people know how to use the tax service website ($\bar{x}$ =4.20, sd=1.27). It is simple to learn how to use the tax service website ($\bar{x}$ =4.35, sd=0.10). And most respondents believe that using the STS website is more effective than visiting the tax administration department ($\bar{x}$ = 4.51, sd=0.91). Users report that there is less paperwork with the help of the STS online system ($\bar{x}$ =4.46, sd=0.85). Tax system digitization saves users time ($\bar{x}$ =4.63, sd=1.01).

Furthermore, the majority of respondents find it convenient to complete tax returns through the "Taxpayer's Office" ($\bar{x}$ =4.62, sd=0.97). The majority of users are confident that their tax reports and applications sent to the tax authority in electronic form via the taxpayer's office will be delivered correctly ($\bar{x}$ =4.57, sd=1.06). A specific person (or group) can assist users in overcoming difficulties while using the STS website ($\bar{x}$ =4.28, sd=1.18). The majority of respondents believe that if a system error occurs, the tax administration will quickly and effectively correct it ($\bar{x}$ =4.13, sd=1.07). While working with the STS website, users feel safe providing confidential information ($\bar{x}$ =4.36, sd=1.21). Users heard about the online tax service system from friends or social networks ($\bar{x}$=4.31, sd=0.92). The majority of respondents would recommend the online STS system to their family and friends ($\bar{x}$ =4.63, sd=0.92). The "Taxpayer's Office" provides users with the necessary tax information ($\bar{x}$ =4.38, sd=1.08). The majority of respondents were satisfied with the STS's online services ($\bar{x}$ =4.42, sd=0.97). Almost all respondents intend to use the STS website in the future ($\bar{x}$ =4.66, sd=0.93).

Table 5 in the appendix contains a tabular summary of the results.

5.2 Hypotheses testing results

According to the Kruskal-Wallis statistical test, there is no difference in total level of satisfaction between female and male users, as well as between different educational degree groups.

However, there is a difference between users of different ages; the majority of users are over 45 years old (33.1 percent), followed by people between 26 and 32 years old (19.9 %), 18 to 25 years old (17.6 %), 33 to 38 years old (16.2%), and 39 to 44 years old (13.2 percent). There is also a difference in professional status groups, with the majority of users are state employees and private workers (23.5%), business owners (14%), self-employed users (10.3 %), students (11%) and others (17.6%). Furthermore, there was a significant difference between different "time period of use of online tax system" groups, with the majority of respondents (33.8 %) using an online tax system for more than 5 years, (25 %) using a tax system for 1-4 years, (23.5 %) less than 3 months, and (17.6 %) using a tax system for 4-11 months.

5.3 SWOT analysis

Comparison of SWOT analysis between Kyrgyz and Russian Tax Service systems.

The SWOT analysis technology characterizes the internal environment (highlighting strengths and weaknesses) as well as the external environment (highlighting opportunities and threats) of digitalization. SWOT analysis is a tool that can be used during strategic planning and at various stages of the planning process (Sagyndykkyzy & Zholtajeva, 2018).

Tax Service in Kyrgyzstan	**Tax Service in Russia**
Strengths • payment simplification; • paper document flow can be completely eliminated and electronic documents can be used instead; • digital tax system saves time; • simplified system for filing electronic tax reports through the STS website on a free basis.	**Strengths** • professional activity of employees; • the accessibility and quality of public services; • flexibility of the tax system, adaptability to the changing economic situation.
Weakness • corruption; • a lack of a clear strategic development direction; • insufficient use of mechanisms for dealing with tax and fee arrears; • Low level of tax literacy of the population.	**Weakness** • taxpayers have a low level of trust in the tax authority's activities; • corruption; • reducing the efficiency of tax collection.

Opportunities • the possibility of remote work; • identify new technologies to improve processes; • increase in tax revenues.	**Opportunities** • simplicity of tax calculation and convenience of their payment; • tax control is being aided by technology, which allows for a reduction in administrative costs; • Simplification of tax administration requirements
Threats • hacker attacks, system failure; • the growth of the shadow economy; • low level of social responsibility and tax culture of taxpayers; • high unemployment rate; • low level of wages and incomes of the population; • regional technological backwardness in the country.	**Threats** • hacker actions; • population has a low level of tax culture; • taxpayers have a low level of social responsibility; • the growth of the shadow economy; • high turnover of qualified personnel with extensive work experience.

Table 3 SWOT analysis

(SWOT analysis table was made by the author)

Corruption is a common negative feature in Kyrgyzstan and Russia's tax systems, but there is currently no state in the world where corruption does not exist. A distinctive feature of Kyrgyzstan is extremely low tax rates on basic taxes (income, profit, VAT) compared to similar rates from neighbors and partners in the CIS (Commonwealth of Independent

States). The quantitative component cannot help but please taxpayers: the state collects few taxes on its territory. In Russia, for example, citizens and organizations pay far more taxes to various budgets than in Kyrgyzstan, in terms of the number of items and in monetary terms. A reasonable tax burden, a good and modern general part of tax legislation, the presence of several options for simplified tax regimes, and preferences for special economic zones all indicate the state's interest in improving tax system efficiency and combating tax evasion.

Hacker attacks are typically technical in nature, and they continue to be the most serious threat in the digital world.

6 Conclusion

In the conclusion part, the author will focus on main and partial objectives as well as on main findings that have been found in this thesis.

The main objective of the thesis is to evaluate user satisfaction with the digitalization of the tax system in Kyrgyzstan. This objective was achieved through a survey, and based on the results of this survey, the author concludes that users are satisfied with the digitalization of tax administration in Kyrgyzstan.

The first partial objective was to evaluate the current state of the tax administration in Kyrgyzstan, that part was performed in the literature review. Furthermore, there presented an overview of tax administration in Kyrgyzstan, taxes administered in Kyrgyzstan, tax audit, and etc.

The second partial objective to conduct a survey about digital tax administration. The research questions were formulated based on the results obtained from the literature part, and the research design was determined using various frameworks and classifications relevant to the research questions. To conduct the survey, author used qualitative research method. Survey has two sections: 5 demographic questions (age, gender, qualification, professional status and for how long user had been using the tax system) and 15 questions about digital tax administration and user satisfaction. Author used a 5-point Likert scale, which ranges from 1 as strongly disagree, 2 disagree, 3 neutral, 4 agree and 5 as completely agree, and four dimensions of the UTAUT model was used: 1) Expected Productivity, 2) Expected Duration of Effort, 3) Social Influence, and 4) Facilitating Conditions. The questionnaire used terms that were quite easy to understand so that users could easily answer the questions. The survey was completely anonymous to make respondents feel confident while answering questions. The survey with all questions and answers is given in the Appendix, chapter 8.

The third partial goal was to analyze survey results, interpret the findings, and make a conclusion. Based on the demographic results of the survey among online tax system users,

it can be concluded that most of the respondents are over 45 years old, and there is no significant difference between male and female respondents, majority has master's degree, most of respondents have been using online tax system more than 5 years, by professional status most of them are state employees and private workers. According to the hypothesis testing there is no significant difference between gender of users, and there is also no significant difference in overall level of satisfaction between users with different "education degree" groups. There is a significant difference in the level of satisfaction between people of different "age" groups, among different "professional status"
and between people with different "period of use of the website of the tax service".

Based on the user responses from the second part of the survey, the author can conclude that the majority of respondents are satisfied with the services of digital tax administrations. Users believe that the digital tax system makes their lives easier and saves them time. Moreover, respondents believe that the online website of the tax service is easy to study and use. In case of errors, the tax administration will solve them quickly and efficiently, the tax administration also provides assistance, they have a customer support service. Most users feel safe by providing confidential information when working with the website of the tax administration. And most people are satisfied with the online services provided by the tax administration.

In conclusion, it should be noted that based on survey results, the average user satisfaction with digitalization of tax administration in the Kyrgyz Republic is equal to 4, which means that most of the users are satisfied.
As already mentioned in the Introduction, the number of users is growing, and based on this, the author believes that in the future the government will be able to provide higher quality services with greater efficiency and at lower costs thanks to digitalization, which also increases accountability and transparency of the state and reduces corruption in Kyrgyzstan.

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8 Appendix

	CATEGORY	FREQUENCY	PERCENTAGE	COMULATIVE FREQUENCY	PERCENTAGE SUM
Gender	Female	76	55.9%	76	55.9%
	Male	60	44.1%	136	100%
Age group	18-25	24	17.6%	24	17.6%
	26-32	27	19.9%	51	37.5%
	33-38	22	16.2%	73	53.7%
	39-44	18	13.2%	91	66.9%
	Older than 45	45	33.1%	136	100%
Degree	High school degree	27	19.8%	27	19.8%
	Bachelor's degree	50	36.9%	77	56.7%
	Master's degree	58	42.6%	135	99.3%
	Doctoral degree PhD.	1	0.7%	136	100%
Professional status	State employee	32	23.5%	32	14%
	Private worker	32	23.5%	64	37.5%
	Business owner	19	14%	83	47.8%
	Self-employed	14	10.3%	97	58.8%
	Student	15	11%	112	82.3%
	Other	24	17.6%	136	100%
	Less than 3 months	32	23.5%	32	25%

Years of using electronic tax system	4-11 months	24	17.6%	56	42.6%
	1-4 years	34	25%	90	76.5%
	More than 5years	46	33.8%	136	100%

Table 4 Calculations of demographical questions responses

(Source: calculations were made in SAS studio, table made by the author)

Factor	Question	n	Mean $\bar{x}$	Median $\tilde{x}$	Standard Deviation	Standard Error	Min	Max
Effort Expectancy	I know how to use the website of the State Tax Service (hereinafter referred to as the STS)	136	4.20	5	1.27	0.108	1	5
Effort Expectancy	It's easy to learn how to use the STS website	136	4.35	5	0.10	0.094	1	5
Performance Expectancy	I believe that using the STS website is more effective than visiting the department of the tax administration	136	4.51	5	0.91	0.083	1	5
Performance Expectancy	With the help of the STS online system, there is less paperwork	136	4.46	5	0.85	0.077	1	5
Performance Expectancy	Digitalization of the tax system saves me a lot of time	136	4.63	5	1.01	0.072	1	5
Performance Expectancy	I find it convenient to fill out tax reports through	134	4.62	5	0.97	0.087	1	5

	the "Taxpayer's Office"							
Facilitating Conditions	I am sure that my tax reports, applications sent to the tax authority in electronic form, through the taxpayer's office, will be delivered correctly	136	4.57	5	1.06	0.083	1	5
Facilitating Conditions	A specific person (or group) can help me overcome the difficulties I face when using the STS website	136	4.28	5	1.18	0.091	1	5
Facilitating Conditions	In case of an error in the system, the tax administration will quickly and effectively correct it	136	4.13	5	1.07	0.101	1	5
Facilitating Conditions	I feel safe by providing confidential information while working	136	4.36	5	1.21	0.091	1	5

	with the STS website							
Social Influence	I heard from friends / social networks about the online tax service system	136	4.31	5	0.92	0.103	1	5
Social Influence	I would recommend using the online STS system to my family and friends	136	4.63	5	0.92	0.078	1	5
Facilitating Conditions	I get the necessary information about taxes from the "Taxpayer's Office"	134	4.38	5	1.08	0.093	1	5
Facilitating Conditions	I am satisfied with the online services provided by the STS	136	4.42	5	0.97	0.083	1	5
Social influence	I intend to use the STS website in the future	136	4.66	5	0.93	0.079	1	5

Table 5 User Satisfaction with State Tax System

(Source: table made by the author)