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THE CROWDFUNDING PLATFORM AS A TOOL FOR ISLAMIC SOCIAL FINANCE'S IMPLEMENTATION

Islamic social finance is becoming discussed direction, social financial tools of have been implemented for poverty and hunger alleviation in society for more than a thousand years. While financial technology is one of the most important innovations developing at the swift-speed, partly driven by information technology and favorable regulation.

The paper aims to research the role of financial technology in solving social challenges in the country through Islamic social instruments. The authors have studied financial indicators and the effectiveness of the crowdfunding platform implementation for zakat collection. Nowadays, a lack of studies on Islamic social finance direction in academics increases the relevance of the article, which contains theoretical aspects and provides practical recommendations for crowdfunding platform integration.

The methodology of the study is based on the estimation of the crowdfunding platform's financial plan, cash-flow revenue, and financial indicators for realistic and optimistic scenarios blockchain technology based and without blockchain. The assessment of the Islamic finance social tools' effectiveness demonstrates, that the crowdfunding platform elaboration is effective for overcoming social challenges. Specifically, the authors explored the socio-economic effectiveness in the form of saving the state resources for targeted social assistance to population. Furthermore, it was suggested, that crowdfunding platform elaboration is the way for Islamic social finance promotion and financial technological advancement in the country.

Key words: Islamic social finance, zakat, a crowdfunding platform, social effectiveness, financial technology.

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Краудфандинг платформасы исламдық әлеуметтік қаржыны имплементациялау құралы ретінде

Исламдық әлеуметтік қаржы кеңінен талқыланатын бағытқа айналуға, әлеуметтік қаржы құралдары қоғамдағы кедейлік және аштықпен күресу үшін мың жылдан астам уақыт бойы қолданылып келген. Сонымен қатар, қаржылық технологиялар жылдам дамып келе жатқан маңызды инновациялардың бірі болып табылады, бұл ішінара ақпараттық технологиялар мен қолайлы құқықтық реттеумен байланысты.

Ұсынылып отырған мақаланың мақсаты – исламдық әлеуметтік құралдарды қолдана отырып, елдегі әлеуметтік мәселелерді шешудегі қаржылық технологиялардың рөлін зерттеу. Авторлар зекет жинауға арналған краудфандинг платформасын енгізудің қаржылық көрсеткіштері мен тиімділігін зерттеді. Қазіргі уақытта академиялық салада исламдық әлеуметтік қаржы бағыты бойынша зерттеулер тапшылығы ұсынылып отырған мақаланың өзектілігін арттырады. Мақалада теориялық аспектілермен қоса краудфандингтік платформаны жүзеге асыру бойынша практикалық ұсыныстар берілген.

Зерттеу әдістемесі краудфандинг платформасының қаржылық жоспарын, ақша ағындарын, кірістерді және қаржылық көрсеткіштерді есептеп бағалауға негізделген. Краудфандингті іске асырудың реалистік және оптимистік сценарийі бойынша блокчейн технологиясына негізделген және блокчейнсіз есептеу жүргізілген. Исламдық қаржыландырудың әлеуметтік құралдарының тиімділігін бағалау нәтижесі краудфандингтік платформаны әзірлеудің әлеуметтік мәселелерді еңсерудегі тиімділігін көрсетті. Атап айтқанда, авторлар халыққа атаулы әлеуметтік көмек көрсету үшін жұмсалатын мемлекеттік ресурстарды үнемдеу арқылы пайда болатын әлеуметтік-экономикалық тиімділікті зерттеді. Оған қоса, краудфандинг платформасын имплементациялау

елдегі исламдық әлеуметтік қаржыны ілгерілету және қаржылық технологияларды дамыту жолы болып табылатыны жөнінде болжам жасалды.

Түйін сөздер: исламдық әлеуметтік қаржы, зекет, краудфандинг платформасы, әлеуметтік тиімділік, қаржылық технологиялар.

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Краудфандинговая платформа как инструмент имплементации исламских социальных финансов

Исламские социальные финансы становятся широко обсуждаемым направлением, инструменты социального финансирования применяются для борьбы с бедностью и голодом в обществе уже более тысячи лет. В то время как финансовые технологии являются одним из наиболее важных нововведений, развивающихся со стремительной скоростью, частично обусловленной информационными технологиями и благоприятным регулированием.

Целью статьи является исследование роли финансовых технологий в решении социальных проблем в стране с помощью исламских социальных инструментов. Авторы изучили финансовые показатели и эффективность внедрения краудфандинговой платформы для сбора закята. На сегодняшний день существует недостаток исследований в направлении исламских социальных финансов в академической среде, что повышает актуальность статьи, которая содержит теоретические аспекты и дает практические рекомендации по интеграции краудфандинговой платформы.

Методология исследования основана на расчете и оценке финансового плана, доходов, денежных потоков и финансовых показателей краудфандинговой платформы для реалистичного и оптимистичного сценариев с двумя возможными вариантами реализации, с использованием технологии блокчейн и базового варианта. Оценка эффективности социальных инструментов исламских финансов продемонстрировала эффективность разработки краудфандинговой платформы в преодолении социальных проблем. В частности, авторы исследовали социально-экономическую эффективность в виде экономии государственных ресурсов на адресную социальную помощь населению. Более того, было предположено, что имплементация краудфандинговой платформы является путем продвижения Исламских социальных финансов и развития финансовых технологий в стране.

Ключевые слова: исламские социальные финансы, закят, краудфандинговая платформа, социальная эффективность, финансовые технологии.

Introduction

Nowadays, political conflicts and biological crises forced almost all countries of the world to face the challenges of economic development. There is an urgent need to attract financing to overcome the deepening economic crisis on the one hand, and to achieve the United Nations sustainable development goals (UN SDGs), the guideline of which is “leave anyone behind”, on the other hand (Kuanova et al., 2021). There is a relationship between economic growth and social inequality, according to many studies (Lord, 2018) (Kalmakova et al., 2021). 17 UN SDGs encompass human's life every aspect and well-being by focusing on 169 targets.

The Islamic finance industry has been affected less than the conventional financial industry in the recent financial crisis because of the real-asset-based and risk-sharing guiding principles of Islamic finance (Al-Zumai and Al-Wasmi, 2016) (Shirazi,

Kuanova, Ryskulov, et al., 2021). The Islamic finance's philosophy based on protection the most important issues of a human, such as life, faith, reason, wealth and posterity (Moyer and Hedden, 2020) (Kuanova et al., 2021). That is Islamic finance and the UN SDGs in strong connection to promoting and supporting social justice and poverty eradication, food security, healthy lives, and a peaceful society.

Nowadays, Islamic social finance is becoming discussed direction, even though social financial tools of Islamic finance have been implemented for poverty and hunger alleviation in society for more than a thousand years, the number of studies and research are very limited.

Furthermore, Islamic finance promotes social and economic rights and opportunities expansion with the help of social instruments: Zakat – alms-giving, Sadaqah – voluntary, and Waqf – endowment (Shirazi, Kuanova and Zhuparova, 2021). These Islamic financial social instruments are linked

with philanthropic giving but have financial and investment features along with social (Zarka and Shirazi, 2017). Zakat is an obligatory payment from income, which is the third of the five main religious pillars of Muslims. Waqf is concerned with charitable giving, the opportunity to invest in the form of an endowment trust (Chartered Institute for Securities & Investment, 2018). The investment is done from the endowment of waqf to the real-asset-based Islamic compliance projects and the profit of the implemented project is used by the charity. The waqf model is the mechanism of the activation of the investment area, as well as the social charity sphere. Moreover, sadaqah means giving without waiting for a return. Described social tools of Islamic finance are utilized for education and healthcare provision, infrastructure development, and support social welfare.

The social nature of Islamic finance and its social tools play a vital role in achieving the UN SDGs and providing social stability, which is important in periods of crises and political instability across the world. Considering the rapid growth of financial technology and the prospects of using technological decisions in promoting Islamic social finance, which has perspectives in solving social problems of the society in the country, the authors have offered the mechanism in the form of a crowdfunding platform for implementation in the activity of Zeket foundation of Kazakhstan.

Literature Review

The majority of the population of Kazakhstan, 70.2% or 13.159 million people are Muslim, by official data. However, there is single religious association in Kazakhstan, called Spiritual Administration of Muslims of Kazakhstan (SAMK), which is a non-profit organization. (www.cia.gov. 2018) According to the SAMK, the main purpose of the administration is the promotion and propagation of the religion of Islam, providing the correct expansion of Islam in the country, contributing to the saving of the Shariah canons in religious organizations, solving religious Muslims' problems through authorized delegates in the regions, training specialists in for teaching the population, establishing a connection with foreign religious organizations, associations, educational institutions. Furthermore, SAMK is also responsible for the religious literature, textbooks, and necessary publications development. (www.muftiyat.kz) There is a legislative framework for guiding SAMK's activities: first is the Constitution of the Republic

of Kazakhstan, then, the Civil Code, the Law of the Republic of Kazakhstan "On religious activity and religious associations", the Law of the Republic of Kazakhstan "On Non-commercial Organizations", others (Obaidullah and Shirazi, 2017).

Figure 1 illustrates that the SAMK institutional management structure is complicated, and zakat collection and distribution are carried out within the framework of the Zeket foundation, which is the main in the country for the Muslim population.

There are website and mobile application of the foundation, both platforms generate general information about zakat, information about the foundation, and its principles of activity. There is given the contact of the specialist in the zakat foundation, for a consultation interested zakat payment persons on the website of the foundation. The foundation has official bank accounts for the transfers on the website and in the application, also there is an option in Kaspi Bank and Halyk Bank applications for zakat or sadaqah payment.

It must be noted, that there is own base of needy people in the foundation. And the foundation under the process of developing the centralized database. The centralized database's purpose is forming the social assistance reports, containing information of the frequency in tear/month, amount, and form the assistance of a person. It is a way for avoiding speculation among people who requested social assistance.

Unfortunately, there is a lack of information on the collected and distributed zakat and sadaqah by the foundation. Available data from open sources only for 2011-2012 were provided by Shirazi and for 2018 given by Zeket foundation. As can be seen from Table 1, the average social assistance amount is 5 012 tenge per family.

The financial technology's role cannot be underestimated in the development process of financial industry. This is one of the most important innovations developing at the speed of swift-speed, partly driven by information technology and favorable regulation. The financial industry is undergoing restructuring by reducing costs, improving the quality of financial services and strengthening a stable financial system. There is financial industry's restructuring the by cutting costs, the financial services quality improvement, and the stable financial system advancement. The investment for fintech development has grown, more than 10 times, from 9 billion US dollars (2010) to 105 billion US dollars (2020) for ten years (Statista.com, 2021).

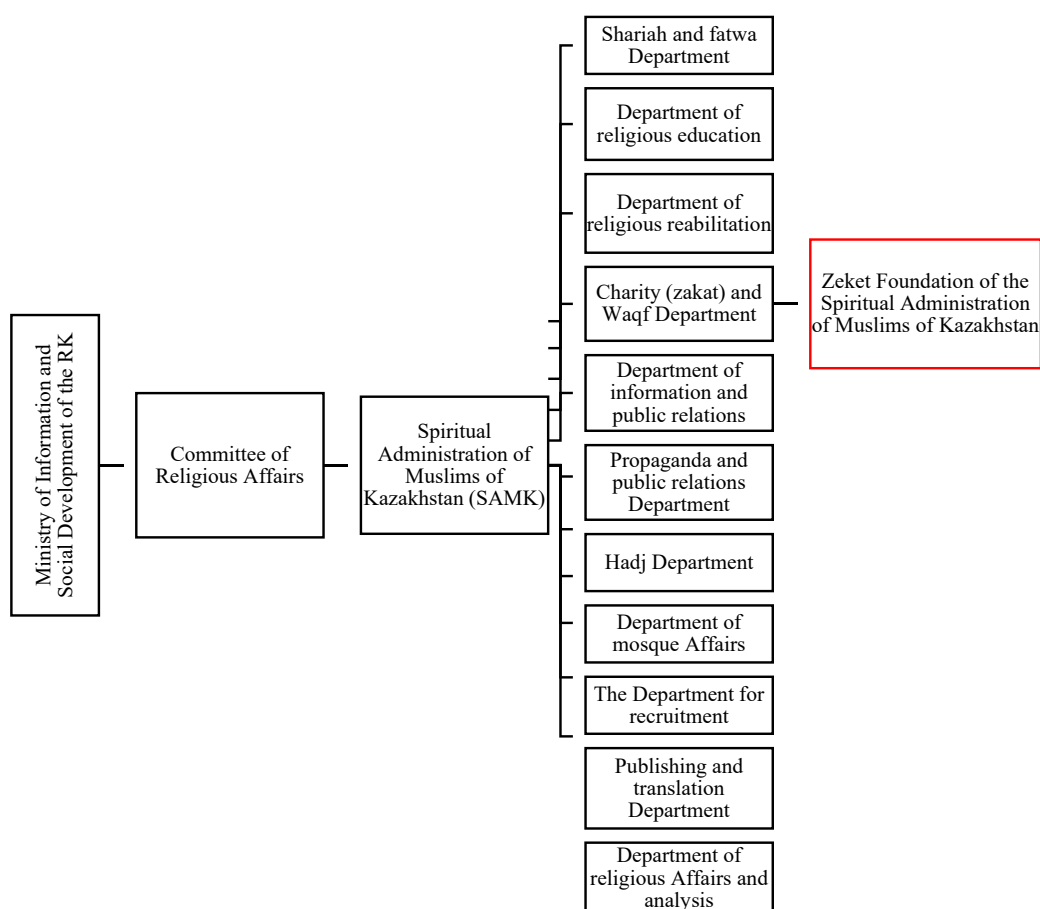


Figure 1 – Zakat management Institutional structure in Kazakhstan
 Note – compiled by the authors

Table 1 – Zeket foundation’s social assistance amount

Period	2011-2012	2018	2019*	2020*
Total social assistance amount (thousand tenge)	52 682	288 780	424 928	2 836 076
Families received social support from the foundation	-	55 620	73 000	297 000

Note – Source (Obaidullah and Shirazi, 2018) www.zeketonline.com www.muftyat.kz
 * calculated based on the average financial assistance per family for the given year and the square meter price of housing

The first element is fintech startups, that are formed from new firms’ payment systems development, wealth and asset management instruments, lending tools, and capital market companies. The system’s second element is providing a regulatory framework. Conventional financial institutions are the central driver fintech system because financial institutions develop technological platforms for customers.

Financial customers, individuals, and organizations are the fintech system’s next element of the system. The fintech system is defective without

technology implementors, who are ensure the essential technological solutions, big data analytics, developers of the cryptocurrency and social media (Lee and Jae, 2018). The role of the government and banks, financial institutions is essential in fintech development and as well as poverty reduction (Ozili, 2018). The framework of the players is illustrated in Figure 2.

The average financial literacy rate is 80%, according to the data of the Agency for regulation and development of the financial market (ARKRDFM), and the number of devices of active

cellular subscribers are 14.7 million in Kazakhstan. Furthermore, the rank is 77 of 131 in fintech area, and country's implementation of innovation input is 66, which is more than outputs – 94 (GII, 2020). Also, Kazakhstan's rank is 27 with 29.1 score of

64 according to the Global Islamic Fintech (Dinar Standard, 2021). The role of Astana International Financial Centre is important, particularly its Islamic finance and Fintech Hubs, for technological and financial development.

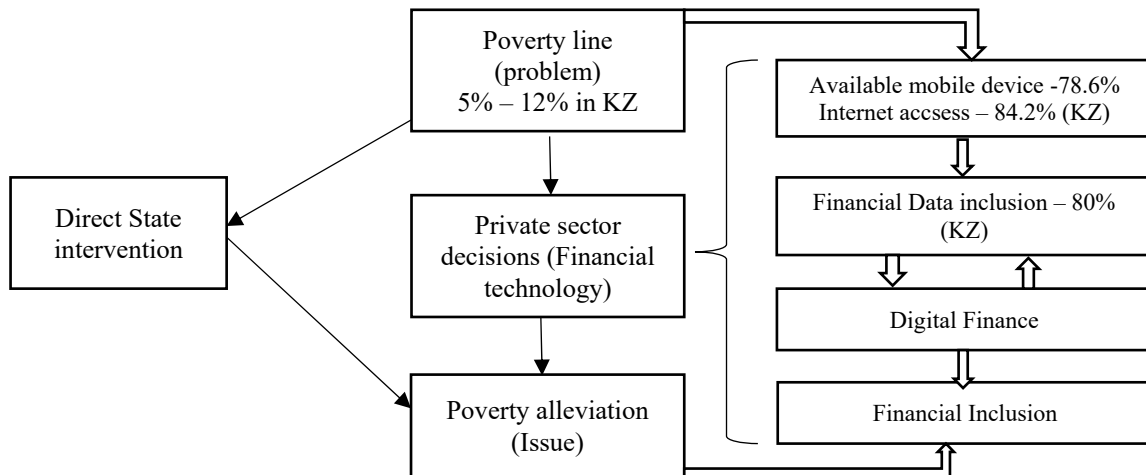


Figure 2 – The framework of the State's and Banks' role in fintech development and poverty reduction
Source: (Ozili, 2018), (ARKRDFM, 2020)

As can be seen, the country has a favorable landscape for financial technological development, especially, from the Islamic financial perspective. It is well-known fact, that fintech is a driver instrument of Islamic finance advancement (Oseni and Ali, 2019). The transparency of the transactions, including zakat collection and distribution, is provided through blocks, which form the blockchain. There is an opportunity to increase the effects of the Islamic social instruments provision, and to reduce transactions' costs and time.

There are number of studies investigated the fintech impact on Islamic finance, also the blockchain technologies capacity in providing Shariah compliance by Oseni, Ali, and Mohamed (Oseni and Ali, 2019) (Mohamed and Ali, 2018). The study of Islamic finance prospects of Shirazi and Kuanova shows, that 84.38% of respondents among Islamic finance experts and professionals in Kazakhstan are confident that financial technologies are Shariah compliance. It was assumed by research in Islamic finance, that fintech contributes Islamic financial inclusion, furthermore reduces the financial intermediation cost for Islamic financial organizations (Shirazi, Kuanova, Ryskulov, et al., 2021).

It is clear, that nowadays the global landscape of Islamic social finance needs improvement. Islamic Social Financial instruments have a successful implementation rich history in various countries, but their application is extremely complex, solving problems related to computations, weak collection mechanisms and inefficacious distribution channels. Zakat payers' and waqf donors' justifiable skepticism can find the solution through advances in technology, such as blockchain.

The pandemic crisis has affected the Islamic financial sector less than other industries, and the last year was substantial in new business model development and customer service improvements through digitalizing financial services. It is noteworthy that investment in Islamic fintech is 4.93 billion US dollars.

There are strong messages of capacities, the digitalization of Islamic financial institutions and increase social of finance are among them. There are successful cases samples: SadaPay (Islamic fintech in Pakistan), which is a mobile wallet for providing payments from 45 countries; Qatar Islamic Bank's mobile application; Malaysia's e-government service provider has established an Islamic finance subsidiary to provide Islamic finance leasing and

other lending activities; Al Rayan Investment in Kazakhstan within AIFC plans to build a digital bank focused on Islamic financial products development.

Thereby, the integration of fintech in Islamic financial services has been rising, including the Islamic finance digitalization and the issue of Sukuk related to fintech. This is a capacity for fin-technological companies and Islamic financial organizations to carry out activities and services, providing investors with Islamic financial products and more opportunities for investment (Sagiyeva and Kuanova, 2019).

Unfortunately, there is a limited number of research and international data on Islamic financial technologies, as Islamic financial services direction is relatively new. Thus, there are theoretical and practical prospects for research and practice.

Kazakhstan has 6 crowdfunding platforms, according to the data of the Cambridge Centre of Alternative finance, while only 1 of the 6 is a domestic platform. The alternative finance volume per capita in Kazakhstan is 4.76 USD.

One of the forms of technological solutions for Islamic social finance promotion is crowdfunding development. Crowdfunding is a way for financing the project collectively in which funding for new product creation is collected from donors. The donors receive newly created goods or services in return. The crowdfunding platform is a specialized Internet resource that is used for crowdfunding businesses and social projects. In the context of Islamic finance, the guiding principles for crowdfunding platforms must be the Shariah-compliant, which is the prohibition of interest debt (riba) based crowdfunding models. The equity-based crowdfunding model must meet the requirements of Shariah. The real-estate crowdfunding model has a low level of shariah-compliant risk. The Islamic finance social effects growth is implemented by donation-based crowdfunding. The donation-based model of crowdfunding is permissible by Shariah for social assistance and charity.

The practical significance and applicability of the paper are in practical recommendations development for the crowdfunding platform elaboration, which can be a guide for further crowd platforms and fintech in the country. It also assists to increase the population's awareness of Islamic social instruments – zakat and sadaqah. Furthermore, the results of the paper allow to rise transparency and, the trust of the donators and, consequently the zakat collection amount in the country.

The crowdfunding platform implementation will serve as a tool for financing social projects and

increase transparency and population trust in the zakat institution and zakat foundation of the country. The target crowdfunding platform's consumers are the socially vulnerable population and families with low income, who leave under the national poverty line, under 1.90 US dollars per day. The leading issue of the of zakat and sadaqah collection low level by Zeket foundation is the donators' distrust for the targeting funding. According to the survey of 1374 respondents from 18 to 60 and over, it was found that 71 % of respondents do the charity without intermediaries, while according to the Atameken business survey 77 % of respondents do not trust the intermediaries (Shirazi, Kuanova, and Zhuparova, 2021).

Methodology

The crowdfunding platform elaboration recommendations' scientific and practical significance in the context of Islamic social finance are indisputable. It is composed from supplementing the theory of Islamic finance with experience of social finance advancement through financial technologies in developing countries. The proposed platform's most important advantage the authors see in Kazakh, Russian and English languages operation, for expanding the circle of users in of Kazakhstan, and in Central Asian countries.

The authors believe, that study of the Islamic Financial social tools' effectiveness and the crowdfunding platform elaboration can contribute to country's strategic goals implementation.

The article's result the crowdfunding platform and implementation of the Islamic finance social tools can be used on multiple levels:

- a) Government (state) level, for the social and economic policy advancement, for reducing the population who lives under the poverty line, for reducing the state spending from the budget for the "targeted social assistance";
- b) SAMK administration level, for ensuring the zakat and sadaqah collection and distribution transparency, the platform provides funds using and the obtained results' transparency;
- c) socially vulnerable segments of the population, for the capacity to apply for social aid, and increase the level of life.

The economically active population of the country is 83.1% of the total socially responsible population, by Bureau's of National Statistics official data. Furthermore, an active Internet user rate is 80% of the population, and 87.4% are computer competent. According to our assessment,

70% of the economically active Muslim population is able to do social assistance to the needy and use this data for further estimations. Moreover, the authors assessed the social effectiveness of crowdfunding platform in zakat and sadaqah collection, using available statistical data. The research of Shirazi, Obaidullah, and Kuanova investigated that a potential zakat collection for Kazakhstan is 1.97% of GDP is (Shirazi, Kuanova, Ryskulov, et al., 2021) (Obaidullah and Shirazi, 2015).

The authors prepared the feasibility study crowdfunding platform elaboration for the Islamic

Finance's social functions realization, including preparation of the technical specification, and the business plan for the crowdfunding platform effectiveness assessment.

The research is drawn based on the methodology of designing the crowdfunding platform elaboration for social projects in the country and providing the monitoring, analysis, and further distribution service to sponsors and donors. It is recommended to integrate the crowd platform in Zeket and charity foundation activity, as the main and authoritative foundation for doing charity among Muslims.

Table 2 – Canvas of Crowdfunding platform model

Partners	Activities	Value Proposition	User Relations	User Segment
Charity foundations Islamic financial organizations the State	attraction donors social activity promotion - Islamic finance's social tools promotion (zakat, waqf, sadaqah) - transparency provision - ensuring distribution reports	- fundraising social projects' platform - public awareness platform increasing - needy and poor people database	- instructions for applicators -donators instruction -contacts and communications with zakat expert	Initiators -needy people -poor people -donators -sponsors - the SAMK -Zeket foundation Backers - donors - sponsors -Islamic financial organizations
	Key resource		Channels	
	IT-platform, blockchain integrated, payment systems		-Website - the SAMK administration -Imams of the Mosques -Mass-media -Associations/Unions - Social networks	
Cost Structure			Revenue Streams	
- IT platform development - Support - Payment system and processing - Promotion			- collection of zakat - collection of sadaqah - investment by waqf	
Note – compiled by the authors				

Table below shows the model structure of crowd platform, the main purpose of providing transparency and the population's trust growth, which led to increase of zakat collection and, reduce the number of needy people, consequently. The authors assume that transparency will be provided by blockchain technology, for collected information security of transactions. Moreover, the instrument that provided transparency is a complete report of the collected and distributed charity amount. According to the crowd platform's proposed plan, the platform support, processing, and promotion costs will be covered by the zakat collection, because it is not a commercial project.

The input data for the platform elaboration:

1. the First year is for crowdfunding platform elaboration;

The second year is for completing the elaboration of ready-made modules for project registration (MVP – minimum viable product), payment system integration;

2. The starting platform activity is the second year, through a ready-made and complete system;

3. The 6 months of the second year are for refining the crowdfunding system with the testing model on social projects and charity collections.

4. From the fourth year it is planned implementation the waqf system, which will

provide the sadaqah amount (not zakat) used for Shariah-compliant investment projects, and profit for distributing generated income to charity.

5. For facilitating the platform and explaining its transparency among the population, the channels such as mosques (hutbas) for rural areas, Zeket fund's promotion channels, and social media channels will be used.

6. By the plan is considered to use 2 units of administration staff from the Zeket foundation administration.

The following capital expenditures are planned for web-platform elaboration: registering applications, the collections in real-time transparency, including the waqf-chain development:

Table 3 – The capital expenditures of crowdfunding platform

Crowdfunding system modules	Price, tenge
Design of multi-page platform	1 000 000
Server-domain	300 000
System development and programming	1 000 000
testing of software	1 000 000
payment system integration	750 000
Computers 2 units	360 000
Software	190 000
Total	4 600 000
Notes:	
1. compiled by the authors	
2. price for January, 2022	

According to the estimation, the required time for platform elaboration and development is at three months at least, there is a need for a professional programmer, professional engineer, tester of the program, payment system integrator, and designer involvement. The authors suggest elaborating a platform by the cash proceeds' automatic visualization in real-time installation. Considering modules are preliminary and can be improved in cooperation with the developers' team. There are the platform's pages and options in Table 4:

The financial statements forecast was compiled for 5 years. The financial statements have been projected from the following:

1. Forecast of the income statement;
2. Projection of the cash-flow;
3. Financial indicators analysis;
4. Estimation of the socio and economic effects of the crowdfunding platform.

Table 4 – Modules and systems of crowdfunding platform

	Platform's modules and systems
1	main page, information about foundation, goals and aims, information about zakat and charity
2	on-line zakat calculator page
3	application for assistance and support system
4	donors and sponsors registration page
5	payment system
6	account management and data base
7	collection and distribution reports
8	Statistics, data
9	Newsfeed
10	Forum and chart
11	System of project tracking
12	investment by waqf
13	social projects realization reports (submitted in the system)
Note – compiled by the authors	

The estimation of the forecasts and the financial indicators analysis are given for two crowd platform options – first, without using blockchain technology, but by providing transparency in real-time for users, it is technically feasible. The second option is a crowdfunding platform with the implementation of blockchain technology. The estimated cost difference for the development and integration of two options of the platform is thirteen times. There has been estimated the general expenditure for the basic platform – 4.6 million tenge, while blockchain-based – 60 million. The reason of high cost of blockchain-based platform is underdevelopment of the blockchain in Kazakhstan, also it requires more time.

As Islamic social finance is directed at society's social improvement, the platform implementation is not a commercial project. It will positively affect the zakat and activity collection of the Zeket foundation of the SAMK. Furthermore, the realization of the platform affects to increase in population trust and awareness, and as a result collection amount. The platform's support and supply costs will be covered by collected zakat and sadaqah. According to Shariah, the one of the eight of the zakat specified for zakat collectors, distributors and administrators (Ali, 2015).

The forecasted revenues of the platform are based on the assessed total zakat collection by the foundation in 2020, which is 2 836 million tenge. The authors assessed the crowdfunding platform implementation's impact and financial indicators in

the zakat collection, without assessment of the zeket foundation's general activity. Thus, the amount of revenue is expected for growth rate, and the expected additional expenditure costs for technical and platform administrative support.

Managing social impact and social outcomes is a very important but challenging task. There are more than 100 approaches for estimating the social-economic effectiveness, and effects in the world. The road map of the assessment of the social-economic effectiveness of the platform:

- Identification the goals and direct beneficiaries of the platform implementation. The goal required be clearly defined in the form of quantifiable goal and formulated by the socially significant result.

- The platform determining by the social investments category. The results of the platform realization are saving public resources.

- The platform's social outcomes and effects must be expressed in the cost form, that is public resources saving through provision by food baskets needy people from the sources of Islamic financial institutions.

- Forecast assessment the social and economic results values of the platform, forecast of financial revenues, and financial indicators analysis.

- Assessment of the platform's social achievements, which must be expressed in cost units, by the average period of the social assistance provision, the one month or year assistance cost per person.

- The complete cost assessment: the activities list, the activity realization expenses, the platform management expenses, and overall costs.

- Estimation of the platform's socio-economic effectiveness.

The social and economic effectiveness is estimated by formula:

$$\text{Social and economic effectiveness} = \frac{\text{Present value of the result}}{\text{Present Value of the costs}}$$

The considered approach of the social-economic effectiveness assessment of the projects allows forecasting for 5 years, assesses the project implementation impact and effects, and finds the effectiveness by units, like cost (tenge), people number, finance saving (tenge) for the future period.

The authors assume that by integration of the crowdfunding platform into the Zeket foundation can resolve the distrust and transparency problems. The technological instrument allows to track the final result. The people involved in the charity targeting platform are minimal, the cost for serving also is minimized.

Results and Discussion

According to the results of the study, the authors estimated the crowdfunding platform integration effectiveness and performance in Zeket foundation's zakat and charity collection in two options: realistic plan and optimistic plan. The realistic scenario is forecasted on the basis of the assumption the gradual charity collection increase by 50% from the benefactors who support directly needy people, 71% of unsatisfied of transparency, they are potential donors. Notably that 63.8% of the people are agree to do charity through the transparent application with the option for choosing the charity direction and seeing the donation result, according to a study by Shirazi, Kuanova, and Zhuparova. (Shirazi, Kuanova, and Zhuparova, 2021).

Table 5 – Comprehensive revenues forecast statement for 5 years by realistic scenario, million tenge

Comprehensive revenues forecast statement	1 Year	2 Year	3 Year	4 Year	5 Year
Revenue	0	1 212.84	1 394.77	1 745.78	2 062.17
Transfer fees	0	24.26	27.90	34.92	41.24
Gross revenue	0	1 188.58	1 366.87	1 710.87	2 020.92
expenses of distribution	1.30	1.30	1.30	1.30	1.3
promotion and advertising of platform	1.00	1.0	1.0	1.0	1.0
Administrative expenses	4.74	4.74	4.74	5.15	5.15
Internet and communication	0.24	0.24	0.24	0.24	0.24
Unexpected expenses	0.45	0.45	0.45	0.45	0.45
Salary	3.60	3.60	3.60	3.96	4.96
Individual income taxes	0.45	0.45	0.45	0.50	0.50
Revenue before depreciation EBITDA	-6.04	1 182.54	1 360.83	1 704.42	2 014.48

Table continuation

Comprehensive revenues forecast statement	1 Year	2 Year	3 Year	4 Year	5 Year
Amortization	0.46	0.46	0.46	0.46	0.46
Before tax	-6.5	1 182.08	1 360.37	1 703.96	2 014.02
Tax	0	0	0	18.43	28.36
Net revenue	-6.5	1 182.08	1 360.37	1 685.53	1 985.66
Note – compiled by the authors					

The feature of the platform's financial flow forecast is spending generated flow to the social assistance and platform servicing and supply. The generated profit from the projects is planned from the fourth year and also will be used for charity.

Following table demonstrates the forecast of cash flow for 5 years based on realistic scenario.

The financial statements have been prepared by using international standards for financial reporting. The assessed financial indicators of the platform elaboration approve the crowdfunding platform integration probability in the Zeket foundation's zakat collection. The general expenditures without blockchain technology, which are underdeveloped

in the country these days, will be affected by the rapid increase of charity collection and covering applications.

There is given the optimistic, where the authors assume the positive effect of the crowdfunding platform integration on the collection amount from the first year of implementation, and the peak growth is assessed in the second year. In this case, the authors forecasted the increase from 71% of sponsors who provide support directly to needy, and also from other non-governmental charitable organizations philanthropists (7%), because using the fintech for doing charity provides transparent and targeted.

Table 6 – Cash flow forecast for the 5 years, realistic scenario, million tenge

Cash flow forecast	1 Year	2 Year	3 Year	4 Year	5 Year
Operational (CFO)					
Transaction income	0	0	0	0	0
Additional services	0	0	0	141.80	141.80
fund's share sale Income	0	0	0	0	0
Payment to suppliers	(1.99)	(26.25)	(29.89)	(36.91)	(43.23)
Salary	(3.6)	(3.6)	(3.6)	(3.96)	(4.96)
Individual income tax	(0.45)	(0.45)	(0.45)	(0.50)	(0.50)
Income Tax	0	0	(0)	(18.43)	(28.36)
VAT	0	0	0	0	0
Net cash from operational activities	(6.04)	(30.30)	(33.94)	82.01	65.75
Investment Activities (CFI)					
Computers	(0.36)	0	0	0	0
Software	(0.19)	0	0	0	0
Crowdfunding platform elaboration	(4.05)	0	0	0	0
Net cash used in investment activities	(4.6)	0	0	0	0
Financial Activities (CFF)					
Contribution to equity	0	0	0	0	0
Contributions, donors and investors	0	1 212.84	1 394.77	1 603.98	1 920.36
Cash outflow of financial activities	0	(25.70)	(33.94)	82.01	65.75
Funding projects	0	(1 187.14)	(1 360.83)	(1 685.99)	(1 986.12)

Table continuation

Net cash used in financing activities	0	0	0	0	0
<i>Net increase (decrease) in cash</i>					
	(4.6)	0	0	0	0
Cash and cash equivalents, beginning of period	4.6	0	0	0	0
Cash and cash equivalents	0	0	0	0	0
Note – compiled by the authors					

Table 7 – Crowdfunding platform elaboration financial analysis, realistic scenario

Indicators	Value, million tenge
Contributing to equity	4,6
including:	
Capital expenditures	4,6
Operational expenses	0
Revenue (for 5 years)	6 415,56
EBITDA (for 5 years)	6 262,27
EBIT operational profit* (for 5 years)	6 260,43
Net profit* (for 5 years)	6 202,53
Payback period	1 month
PV (for 5 years)	4 931,74
NPV (for 5 years)	4 927,14
PI Profitability Index	1072
IRR (for 5 years)	1495
Note – compiled by the authors	

The crowdfunding platform implementation optimistic scenario is based on forecast of 40% more funding from the charity from the second year, than in first year, 2 836 million tenge. And also 40% of the funding from 71% of the sponsors, directly do charity. It is expected attracting financing 20% more every year from second year of the implementation. There is planned investment half of the finance collected to the Shariah-compiled projects through Islamic financial organizations from the fourth year.

The authors estimated another scenario of a crowdfunding platform based on blockchain technology; this solution requires inviting foreign IT developers. The platform elaboration will cost 60 million tenge, according to the commercial offer. (Offer for 09.2021).

Table 8 – Financial analysis of crowdfunding platform integration by optimistic scenario

Indicators	Value, million tenge
Contributing to equity	4,6
including:	
Capital expenditures	4,6
Operational expenses	0
Revenue (for 5 years)	16 274,07
EBITDA (for 5 years)	15 923,62
EBIT operating profit* (for 5 years)	15 921,78
Net profit* (for 5 years)	15 863,88
Payback period	1 month
PV (for 5 years)	13 155,77
NPV (for 5 years)	13 151,17
PI Profitability Index	2859
IRR (for 5 years)	3529
Note – compiled by the authors	

Table 9 – Crowdfunding platform implementation financial analysis, blockchain

Indicators	Value, million tenge
Contributing to equity	66 500
including:	
Capital expenditures	60 000
Operational expenses	6,5
Revenue (for 5 years)	6 415
EBITDA (for 5 years)	6 262
EBIT operating profit, 5 years	6 260
Net profit* (for 5 years)	6 147
Payback period	1, 1 year
PV (for 5 years)	4 932
NPV (for 5 years)	4 872
PI Profitability Index	82,2
IRR (for 5 years)	401
Note – compiled by the authors	

The blockchain based crowdfunding platform development requires 13 times more capital and operational expenses than the first option. The system's pay-off is assessed and expected in one year and one month. It is expected that the NPV figures for 5 years are positive and exceed the initial investment, for execution of the planned indicators.

Obtained results indicate the platform elaboration financial stability. There is a high value of IRR for five years.

The method of the assessment of inputs and outputs platform elaboration and integration in Zeket has been used for estimation effectiveness for zakat and charity collection.

Table 10 – Assessment of the crowdfunding platform socio-economic effectiveness, realistic scenario

	Indicator		1 Year	2 Year	3 Year	4 Year	5 Year
1	The potential persons (families), received social support using the platform of the state-targeted assistance cost	65 940 persons or 12 263 Families	0	12 544 (2 466)	14 437 (2 838)	17 887 (3 516)	21 072 (4 142)
2	The state targeted social assistance cost for a year per person (per family), in constant costs	936 000 persons or 184 000 Families	94 230 (479 348) tenge	94 230 (479 348) tenge	94 230 (479 348) tenge	94 230 (479 348) tenge	94 230 (479 348) tenge
3	Present value of the state targeted social assistance cost		86 450 (439 769)	79 312 (403 458)	72 763 (370 144)	66 755 (339 582)	61 244 (311 543)
4	Total present value of the state targeted social assistance cost for five years, in million tenge	343 067	80 917	74 236	68 107	62 483	57 324
5	Present value of the state targeted social assistance savings, in million tenge	4 530	0	995	1 050	1 194	1 291
6	Platform expenditures non blockchain	4 600 000	4 600 000	0	0	0	0
7	Platform expenditures blockchain-based	66 500 000	66 500 000	0	0	0	0
10	The platform's Socio-economic effectiveness non blockchain	985					
11	The platform's Socio-economic effectiveness blockchain-based	68.12					
Note – compiled by the authors							

There is the indicators list for assessing the crowdfunding platform's socioeconomic effectiveness:

1. The platform's purpose: the population's trust increases through the transparency of the collected and distributed zakat and charity transactions. It will be led to the collection amount growth.

2. The program's direct results: the platform-provided services list.

3. The platform integration socioeconomic results and effects.

4. Beneficiaries' release (audience coverage) within the platform integration.

5. The state-targeted social assistance cost for 1 year.

6. The crowdfunding platform integration cost.

7. Discount rate.

The assessment result of the social and economic effects of the implementation of crowdfunding platform is 985 for the platform without using blockchain technology and 68.12 for blockchain technology-based platform. That is every invested tenge in platform implementation brings 985 tenge and 68.12 tenge saving in public resources, respectively.

Conclusion

There are Islamic finance social features in the form of the equal opportunities, equitable distribution, social justice, economic growth and social development, wealth and income creation, profit-risk-sharing allow for demonstration the benefits set approved thought the principles and

Islamic financial instruments: efficiency, stability, establishing equity, systematic integrity, society orientation, and sustainability.

There have been used several methods of the effectiveness assessment of crowdfunding platform implementation for zakat and charity collection by various scenarios. Every method has successfully approved the platform integration effectiveness in both form of platform, the basic platform for 4,6 million tenge, and 1 month and the blockchain-based, which requires 1,1 years for elaboration and 60 million tenge. Both considered platforms' options are designed for providing transparency for donators and applicants. The blockchain-based crowdfunding platform elaboration and development will provide the advancement of the fintech in the country, despite the complication and consumed time. The role of the state bodies, represented by the Ministry of Digital Development, Innovations and Aerospace Industry of the Republic of Kazakhstan, as the main developer

of technologies and digitalization, the Ministry of Information and social development of the Republic of Kazakhstan, as the ministry regulated the activity of Zeket and charity foundation by the Committee of on Religious Affairs, and the Ministry of Finance of the Republic of Kazakhstan is valuable for the issue related to the creation and development technological solution for solving social problems. The results of the research illustrate the financial indicators' high level of crowdfunding platform implementation. It is concluded, that crowdfunding platform integration in Zeket foundation activity in charity collection will lead to significant savings on public resources.

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