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A Smart Model for Financing Startups with Blockchain, Case Study: HamiChain Platform

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Abstract

Encrypted assets can be traded like traditional currencies, and products and services can be exchanged for digital currencies. The use of SMART contracts in the context of the blockchain network allows startups to be able to finance creative projects. In this research, a qualitative-quantitative approach has been used. Meta-synthesis method was used to identify smart financing indicators for startup businesses. In the quantitative stage, the importance of the extracted indicators was collected by distributing questionnaires among 220 investors and the project team and analyzed with the help of SPSS software and One-Sample T-tests, and Friedman's ranking. The results showed that among the 7 indicators of the intelligent model extracted from the qualitative method, the indicators of implementation, trust, and results are considered the most critical dimensions from the respondents' point of view in intelligent financing. Also, the indicators of confidence, participation, and cognition are next in importance, and the belief index was ranked seventh. The proposed model covers 78% and 80% of the opinions of the investors and the project team. Among the advantages of the proposed model are fast, safe, and transparent financing, diversity in investment method choices, project interaction, SMART contracts, and a pattern of reward distribution to network members instead of transaction fees. A blockchain-based financing model can provide startups with a quick and low-cost path to growth and development.

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1. Introduction

Financing is the art and science of cash management. The purpose of financing is an investment, profitability, risk reduction, and meeting the economic and social needs of the firm. Profit from the firm's business is considered an essential factor in the continuity of a firm's activity and is an important source for financing future operating activities. A common concern of economic firms in the world is providing desirable funds. Hence, financial resources have been likened to the lifeblood of businesses and organizations of any size. The main goal of any economic activity is profitability and it is not possible to make a profit without financial resources (Paramasivan and Subramanian, 2008). This is so important in startups that it is not impossible to develop ideas and nurture the creativity of knowledge-based projects and small student teams without funding them. Startups, because they are often made up of small and young groups, do not have access to much capital and need to attract capital to realize their business ideas.

As it turns out, however, raising capital for startups is not an easy task; traditional financing methods are not appropriate for these businesses and do not meet their needs (Hsu, 2010). At the same time, it may seem like one of the easiest ways to raise capital, but getting a bank loan requires paying regular and possibly heavy instalments. It is important to note that startups are low-profit at the beginning of their operations, and this can double the pressure to pay off bank loans. That is why taking out loans, if not done with prior research and knowledge, will lead to negative consequences, to the point of the project's failure and large sums of debt. Thus, it is recommended to use other financing methods at the beginning. In this case, they will have no choice but to attract a private sponsor and find an investor. But private investors, as mentioned, need reassurance to inject capital into the project. Some startups offer preferred stock in exchange for investment in their company to attract investors. Doing so will give investors greater confidence in their return on investment and strengthen their confidence in investing. Apart from venture capitalists who demand high returns in proportion to the risk they incur, other investors will not accept such investments (Bento et al., 2019).

Some startups worldwide prefer to raise smaller amounts of capital from more people rather than look for one or two major investors. One of the most important benefits of crowdfunding is the savings in cost and time; crowdfunding can provide the needed capital quickly, unlike banks and private investors, who take much time. There is also no need for the idea owner to transfer the company's share to the investors. Instead, reward-based incentives or the project's product drive investors to invest.

Currently, markets such as digital currencies are attractive to investors, many of whom have entered these markets and with more willing to enter. According to a statistical study conducted in the spring of 2019 among people active in this field, about 55 % of the respondents had purchased cryptocurrencies in the last 6 months. Also, the growth in the number of users of domestic platforms (at least a 13-fold growth in 2019 alone) indicates the increasing popularity of investment in, purchase, and sale of cryptocurrencies (at least a 45-fold growth in 2019 alone) and cryptography in Iran. Notably, the lack of internal substrates and a passive approach to shaping the crypto ecosystem will lead to capital outflows to external substrates. Considering the progress and increasing expansion of these changes, traditional financing methods have somewhat diminished, and we need to develop new financing models with new approaches. Approaches that, in addition to abiding by traditional financing guidelines, can respond to startups of a new financial ecosystem in a new and smart way. Creating a transparent mechanism for crowdfunding is needed by small businesses and startups to be able to raise the capital needed for their projects. On the other hand, investors should have the opportunity to be informed about the details of the projects, invest in the project with a clear vision of the future, and monitor the progress. In the forthcoming vision, with the increasing

use of digital currencies and the e-wallet market, FinTechs will play a significant role in this ecosystem as startups in the financial field. Having a domestic network with digital currency capabilities and providing benefits different from stocks and securities, given their attractiveness to investors, can, in addition to creating a smart mechanism for financing businesses, boost startup financing and lead to fundraising for project development.

In this study, we will attempt to provide a smart model for financing startups by examining the existing investment methods and financing capacities for startup businesses. A model that, due to its creative and innovative nature, can provide a way to facilitate the advancement of project goals and achieve the expected profit levels of investors by using new technologies and encrypted assets. Therefore, the main purpose of this study is to answer the basic question, "What should be the characteristics of the smart financing model of startup businesses with encrypted assets, and by what mechanism can it be implemented?"

2. Literature review and background

Many studies have focused on the nature of blockchain and bitcoin, highlighting the fundamentals and structure of this digital currency's creation, exchange, and mining. Some researchers have referred to the fundamental concepts in this field and have published general information about cryptocurrencies, bitcoin, and blockchain networks in their books and articles (Chuen and Deng, 2018; Chuen, 2015; Yano et al., 2020). Other research has focused on the technical aspects of the blockchain network in the fields of medicine or the environmental sciences (Jia, 2021; Ratta et al., 2021). Studies by researchers in other fields have also been used on blockchain applications in knowledge management and network communication (Philsoophian et al., 2021; Azizi et al., 2021). On the other hand, we have witnessed inquiries into microfinancing and crowdfunding of small businesses and startups, and research has focused on crowdfunding models to examine the investment mechanism (Upadhyay et al., 2021; Shahrour, 2021; Joshi, 2018). Research related to crowdfunding also addresses issues such as the factors influencing participation, the legal nature of crowdfunding, and the domestic laws of countries in the field of business (Alonso, 2015; Scheda, 2019). In blockchain technologies and the use of cryptocurrencies in startups, more attention has been paid to using blockchain and decentralized networks with global cryptocurrencies (Huckle, 2020; Krückeberg and Scholz, 2019; Roth et al., 2019; Tönnissen et al., 2020). Also, findings in the fields of financing based on the initial coin offering regarding startups and creating business models indicate that it has been done in previous years, but the success rate and success share of projects worldwide have been shallow among the implemented ICOs (Laatikainen et al., 2020; Martino et al., 2019; Spangenberg et al., 2020). Studies have also studied using tokens for financing, pointing out the mechanism and method of funding token-based and smartening of exchanges based on blockchain tokens (Lee, 2018; Tasca, 2019; Burilov, 2018). A review and analysis of various studies' results indicate that financing can happen in a blockchain network with the help of cryptocurrency; however, no attention has been paid to the nature of this financing and the benefits of this type of financing in the blockchain network for startups within the context of laws and regulations.

2.1. Proposed features of SMART financing

One of the requirements of SMART[1] financing is that investors will always be interested in knowing what costs the funds are used to cover and how the projects are progressing. In addition to transparency, the relationship between risk and return in project partnerships and investment

[1] It means intelligent, shortened from the words (Specificity - Measurability - Availability - Realistic - Time-based)

contracts is significant (Wang and Xu, 2022). This possibility can be realized within the blockchain platform, where taking advantage of SMART contracts, in addition to increasing transparency and security of financing, makes it possible for encryption of the buyer, the seller, the transaction volume, and the transaction validity to take place in only a few seconds without requiring approval from a particular monitoring body such as a bank or brokerage. All network members can monitor and track this issue, and the amount of each person's assets can be tracked with his digital signature and electronic wallet. This technology can be applied and implemented in various fields; therefore, digital tokens in the context of blockchain technology can be used as financing cryptocurrencies to attract development resources. This will be the case if all the features, advantages, and disadvantages of using digital assets for financing are examined and evaluated. Also, the legal and legislative aspects of using digital assets in financing should be considered. A SMART financing model should be developed and presented in the context of blockchain technology to finance startup

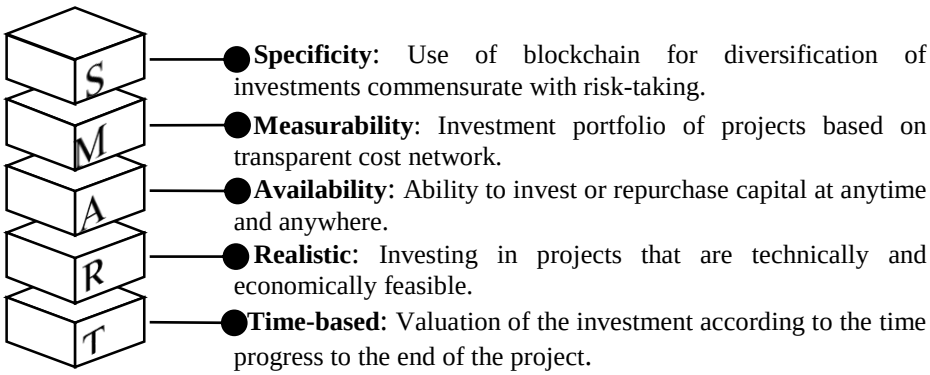

Figure 1. SMART financing features (Researcher Made)

businesses with the help of cryptocurrencies (Safina and Oseni, 2019). The SMARTness of the model can be defined based on capabilities as shown in Figure (1):

In the following sections, we will arrive at the initial design phases of the model and, finally, the smart financing pattern concerning the features of smart financing for startups.

2.2. Diversity in investment

One of the most important goals of this investment model is supporting startups to achieve their product, which is why the tokens of SMART financing have been labeled "HAMI[1] Tokens". Investors make various investments based on the degree of risk-taking and risk aversion they have. Given the wide range of investment tastes in microfinancing, investors will choose the return rate appropriate for their risk-taking level. Therefore, creating an option for the investors to choose the best investment method for them is one of the benefits of the SMART financing model in businesses. Utilizing tokens with various applications is one of the main features of the SMART financing model. This variation in tokens is shown in Table(1); Capital Tokens, Debt Tokens, Product Tokens, and Social Tokens are among some of these tokens that each have their own specific characteristics (Rodríguez-Garnica and Benedetti, 2022).

Capital Tokens will include financing in the form of venture capitalism with the capacity to return a certain investment profit after commercialization and achievement of profits; shareholders will also enjoy dividends (Ciriello, 2021). Debt Token is for risk-averse investors who demand a

[1] HAMI means supporter in Farsi. In this research, it refers to the name of the platform and investment tokens.

certain profit in return for their investment in a given period; they will receive their principal investment ad an interest on their capital at the legally agreed-upon deadline (Baum, 2021). Product Tokens will be for investors who, after studying the project proposal, want to buy the project's final product, and through this, they can pre-purchase the final product or service. Social Tokens are intended for charitable contributions, financed by social institutions and organizations that invest to see the project reach its goals without expecting a return (Hartmann et al., 2019). Due to the variety of financing tokens in this model, it is possible to benefit from various investors of any kind and with any taste or amount of capital to participate in startup projects.

Table 1. Types of investment tokens (made by the researcher)

Token type	Nature	Definition	Risk	Returns
Capital tokens	shares	Project participation bonds in the number of capital tokens	High risk	Value of share and profit of investment period
Debt Tokens	debt	Bonds based on a certain amount of investment profit	Low risk	The principal and profit of the investment are specified at maturity
Product tokens	Pre-purchase	Pre-purchase of goods or services	Medium risk	Pre-purchase discount compared to the final price
Social tokens	Capital Donation	Financial contribution to the project without repayment	not defined	Social and public interests

2.3. Project feasibility

Every new project publishes a White Paper for financing, which describes the overall plan of the project and its main objectives. They also specify the capital they need, the project owner's share of the tokens, and the offer duration. The white paper does not specify whether the project is technically feasible and economically justified based on the team's capacities or in terms of the rules and regulations. The proposed process of the SMART financing model can call for financing after approving the initial project plan and reviewing the implementation capacities of experts. The project plan will provide economic indicators, technical feasibility, specifications and characteristics of the final product or service, product value, market, the path to achievement of the goals, expected estimates of return on investment, and break-even points. This information is provided to investors so that all capital suppliers choose their cases according to the expected return rates (Charfeddine and Umlai, 2021).

2.4. More power to achieve goals

One of the problems for startup teams that get funded by major investors is board membership and high voting rights for the investors, which may hinder a team's full-power move towards its goals. Similarly, if institutions and banks fund projects, paying heavy instalments can disrupt the team's focus on achieving the project's main goals. In the proposed model, micro-stakeholders will have the least involvement in team decisions and only share their opinions with the team as

suggestions. Investors who have participated in the project in the form of debt tokens will receive their principal capital and profit only on deadlines. This will improve the concentration of the project team and empower them regarding their achievement of business goals and pursuit of executive matters (Hornuf and Schwienbacher, 2018).

2.5. Current investors, future customers

Some investors will be eager to invest in a project due to their need for a product or service. In other words, they will eventually support the project to use the final product or service. Currently, financial institutions as investors do not commit to buying or advertising your product when financing your project. The project team should be concerned about selling the product and repaying their debt. One of the advantages of product tokens is the pre-sale of the team's products to investors who are also future project customers. This distinguishes this financing method from buying shares of companies or investment securities. These same people, as a network of prospective customers, will take over the advertising and market the final product or service of the project. By introducing the project product or service to a vast audience, this network will attract a range of investors towards your project and increase the rate of exchanges and the speed of token circulation, ultimately increasing the value of tokens (Banerjee and Bose, 2022; Bessière and Stéphany, 2023).

2.6. Participate in the project instead of interfering

In projects funded by venture capitalists or investment angles, interference by the investors in the project and its structure has often discouraged and even broken up the project team. In the proposed model, due to a large number of investors and the distribution of investment units, the project team maintains its autonomy while being able to use the opinions, ideas, and guidelines of investors through the created network to improve the product and survey their ideas about some features of the final product, such as color, design, packaging, etc. This will increase future customer satisfaction and reduce market research costs (Emami et al., 2022).

2.7. Possibility of change like investment

Investors in the capital or securities markets cannot change the nature of their investments and will always be a shareholder or a participant in the project. People will not get the company's products by buying shares. There will be no change in shareholders' composition in projects financed by bank loans. This feature will restrict investors from changing the nature of their investment until the end of the project and the return on investment. It will be very desirable for investors to be able to change their investment status during the project, given the progress and performance of the team. Other features of the proposed model will be transactions available at the project level. The purchase and sale of tokens will be made in a decentralized network platform without time and space restrictions. Depending on the number of tokens in their portfolio, each supplier can sell cash or purchase tokens and participate more in the projects (Gurdgiey and O'Loughlin, 2020). One of the essential parts of the proposed SMART model is the rate of conversion of tokens to each other, which will be determined according to the difference in risk and return. One of the essential parts of the proposed SMART model is the rate of conversion of tokens to each other, which will be determined according to the difference in risk and return. At the same time, only the expected return will change, not the value of the investor's assets (Shariat Panahi et al.,2019). For example, converting a capital token to a debt token will result in lower returns and less than one product token per capital token because the supplier reduces the risk. The token

conversion rate, in this case, will be less than one. Reversely, to convert a debt token to a capital token, the investor will receive more than one per debt token due to increased risk. Product tokens will also require different conversion rates from other tokens. If the value of token i is equal to Ti, the token conversion rate will be based on a formula (1):

$$T_i = \frac{(1+j)}{(1+i)} T_j \qquad \text{i,j = (s,c,d,p)} \qquad (1)$$

Where the values i and j for c are the expected return of the investor from the purchase of the capital token, d is the expected return of the investor from the purchase of the debt token, p is the expected return of the investor from the purchase of the product token and s is the expected return of the investor from the purchase of social tokens. The conversion rate of tokens to each other is adjusted based on the return on investment. For example, if the investor has 100 capital tokens and wants to reduce risk, he can buy 84.61445 debt tokens. Reducing the risk will reduce the return on investment from 30% to 10%. However, due to the higher price of the debt token than the capital token, the amount of the individual investor does not change; changing the nature of the investment reduces its risk, and the investor will hence receive a lower return at the end of the period.

Therefore, the conversion of assets happens based on the difference in prices of HAMI tokens and is considered a practical feature. It is worth noting in this section that social tokens cannot be converted to other tokens because their return is zero; their value will be equal to the value of base HAMI Tokens. Investors can turn their other tokens into social tokens during the project and play a more effective role in the social responsibilities of the project and its charitable results.

2.8. Network transaction rewards

An amount is included as a commission and is deducted from the parties to the transaction for the purchase, sale, and exchange of shares or securities within centralized networks. This amount is determined based on the volume and the number of transactions by the network center (central bank, stock exchange organization, etc.). It is used to monitor the accuracy of transactions and the development and expansion of services. In decentralized networks such as blockchain, members of the network monitor and approve transactions due to the lack of a centralized headquarters (Barhanpure et al., 2018). In cryptocurrencies such as Bitcoin, miners will be responsible for verifying transactions and network security and will be rewarded in return. Confirming the accuracy of Bitcoin transactions and creating a new block due to complex calculations requires high energy consumption. Miners will receive a reward for the consumption of their time and energy. Of course, there are other algorithms for consensus in the blockchain network (Matsunaga et al., 2020). Another feature of the SMART financing model is the distribution of network transaction commissions based on proof of shares. The network will distribute it among the investors who approve the transactions based on the number of available tokens in every transaction commission. Accordingly, the amount of commission is calculated given the transaction volume and is divided by the total number of tokens offered; the reward allocated to each investor is determined in proportion to their assets. In addition to making it attractive for investors to validate network transactions, this feature accelerates the token exchange cycle among network members, expands and develops the network, and raises the value of the tokens.

2.9. Repurchase of investment

The deadline for the repurchase of the tokens will be determined based on the initial plan; the project's break-even point will be determined as the time for the return on investments (Smith and Van Wagoner, 2022). The tokens will be repurchased at the current value in projects where the investment period has ended and the product is presented. This will vary depending on the type of HAMI tokens. Investors with capital token assets in their portfolio will either remain with the project as a shareholder as the tokens are repurchased or release their assets by selling their stock at their current value. Product tokens that have pre-purchased the priority receipt of the project's final product or service will benefit from the product as the project wraps up. According to the initially agreed rate, debt token holders will receive their principal investment and profit by repurchasing their tokens according to the original agreed upon rate or benefit from the project product or service equivalently to the sum of their investment return. Holders of social tokens who have financially supported the project will also be honored at the end of the project and delivery of results, and their tokens will be returned to the project team (Ante et al., 2018).

3. Methodology

The current research is practical from the point of view of the objective and it is included in the mixed exploratory (qualitative-quantitative) research that was conducted in the qualitative part using the Meta-synthesis method. Meta-synthesis is a qualitative study conducted on the concepts and results used in past studies with common coding methods in qualitative research (Hoon, 2013). In this method, by reviewing the studies and research done, the findings of the studies related to the research can be used in a structured way. The characteristics of an acceptable financing model for startups were examined among the ranked articles. Then, the indicators of the desired model were extracted and combined with the indicators of smart financing and blockchain technology, and the suggested indicators of smart financing were presented.

In the next step, 7 main indicators of the model were quantitatively evaluated by experts by designing a questionnaire. The validity of the quantitative instrument was confirmed using expert opinion. The tool's reliability was also measured by Cronbach's alpha method for two groups of investors and startup teams in all dimensions and reported in Table (2). According to Cronbach's alpha numbers above 0.7 for all questionnaire dimensions, the reliability was confirmed.

Table 2. Cronbach's Alpha test

dimension	Cronbach's Alpha	
	investors	startup teams
cognition	0.876	0.768
Reliability	0.806	0.764
trustworthy	0.734	0.835
Beliefs	0.884	0.745
the operation	0.737	0.780
participation	0.911	0.821
Results	0.900	0.784
Total questionnaire	0.724	0.755

The collected data were analyzed based on probing questions using descriptive (percentage and average) and inferential statistics (one-sample T-test and Friedman's test).

4. Findings

After designing the initial proposed model based on the existing criteria, a researcher-made questionnaire, with 27 5-choice questions on the Likert scale, was used to validate the model and evaluate the indicators from the stakeholders' perspective. These stakeholders included startup co-

founders, startup teams, venture capitalists, and business investment activists, and their perspectives were used to approve the validity of the results and features of the model. Questionnaires were distributed to two groups of investors and startup teams, and the results were collected.

- Proficiency: Knowledge of crowdfunding, blockchain technology, digital wallet, etc.
- Confidence: The degree of investors' risk-taking and the commitments of the project team in return for funding.
- Trust: Initial project feasibility plan and stage-by-stage reports on progress.
- Belief: The investors' and project members' values and belief in compliance with rules and guidelines.
- Implementation: The technology used for project implementation
- Collaboration: Participation and interaction between investors and the project team to achieve the goal.
- Results: Investors achieve the desired results and the project team's goals are realized.

To explain the proposed model and validate the capacities of the SMART financing model, a questionnaire designed with 7 dimensions and 27 questions was prepared and distributed electronically among 220 members in the community of investors and venture capitalists active in the field of startup businesses. The main dimensions included knowledge of financing (proficiency), confidence in the investment, trust in the project, valuing participation, the method of implementation, collaboration in the project implementation, and the investment outcome.

To check the research hypotheses, we use the one-sample t-test and consider the value of the test to be equal to 3. According to the significance level presented in Table (3), which is equal to zero (less than 0.05), we reject the assumption of community equality for the indicators of the proposed model with the test value of 95% confidence. And because the upper and lower limits are both positive, it can be concluded that the community for the indicators is more than the value under test. In other words, according to the respondents, the amount of indicators in the smart model of financing startups is at an optimal level.

Table 3. One-Sample Test Results*

Index	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Proficiency	18.576	219	0.000	0.799	0.714	0.883
Confidence	31.888	219	0.000	1.067	1.001	1.133
Trust	34.887	219	0.000	1.014	0.957	1.072
Beliefs	13.649	219	0.000	0.575	0.492	0.658
Implementation	28.623	219	0.000	1.122	1.045	1.200
Collaboration	26.123	219	0.000	0.953	0.881	1.025
Results	21.877	219	0.000	1.040	0.947	1.134

* test Value = 3

The data in Table (4) shows that the chi-square value (125.603) obtained at the 0.05 level is significant and according to the obtained significance of 0.0, it can be said that from the perspective of the research participants, the indicators considered for the smart financing model have been placed in different priorities.

In other words, the review of the data indicates that from the point of view of investors and project teams, the operation part is of great importance, and Dimensions such as creativity and innovation in project implementation, the use of digital tokens, as well as capital management by

investors, and the ability to transform the investment method have received much attention from experts and specialists. The observed difference is that the indicators of Trustworthy, Results, Reliability, and Participation were the next priorities of the respondents with a small distance, respectively, and the two indicators of nobility and belief had the least importance in the proposed model.

Table 4. Friedman's test results

Rank	Indicator	Mean Rank
1	Implementation	4.610
2	Trust	4.400
3	Results	4.390
4	Confidence	4.160
5	Collaboration	4.140
6	Proficiency	3.600
7	Beliefs	2.700
	Chi-Square: 125.603	
	df: 6	
	Asymp. Sig.: 0 .000	

According to the respondents to the questionnaire, from the point of view of investors, the method of implementation, confidence, and trust factor were important in investment. In contrast, from the point of view of startups, the implementation process and the result of the project can play a more critical role in raising capital. The final results of the questionnaire confirmed that the characteristics of the proposed model are based on the capabilities that the investors and project teams considered, meaning the generalizability of the model based on the needs of investors and project teams is 78% and 81%, respectively.

4.1.The proposed SMART financing model: HamiChain

HamiChain is a decentralized blockchain-based network in which investors join the network to finance startup business projects and benefit from their investments. Using the smart financing model in this network, all investors can invest in projects available on the platform and manage their investment portfolio according to their risk-taking capacity. The HamiChain model, in the context of the blockchain network, allows investors to invest in a selection of projects and manage their portfolios. Availability of various investments in terms of risk and return on investment will be some of the other features of the Hami network in which suppliers with any amount of risk-taking can invest in projects and benefit from them. The decentralized system used in the process of transactions, sale and purchase of assets can be pointed out among the technical capacities of the Hami network.

The process starts with registering the initial idea and continues until achieving the product is fully monitored in the HamiChain network. The startup team will be accompanied every step of the way. First, the initial idea is registered in the portal and the project proposal is completed per the information. Then, based on the need for financial resources, the break-even point, and the return on investment, the tokens needed for financing will be identified and planned to be offered to investors. Accordingly, investors will overview the plan and implementation stages in a given period and purchase various tokens based on their risk-taking capacity. After financing and raising sufficient capital, the project team will periodically update their official page with information on the project's progress and share its reports and requirements on an interactive page with investors. Investors can see and convert their tokens in their e-wallets, and due to the variety of projects, they can exchange their tokens with a minimum fee. After the investment period and the end of the

project, based on the agreements in SMART contracts, investors will reap the benefits of their investment by repurchasing their tokens at the current value. In addition to supporting startup businesses, the financing process is conducted in complete transparency based on new technologies in this method, and investors, regardless of their share, can invest in projects together based on their level of risk-taking.

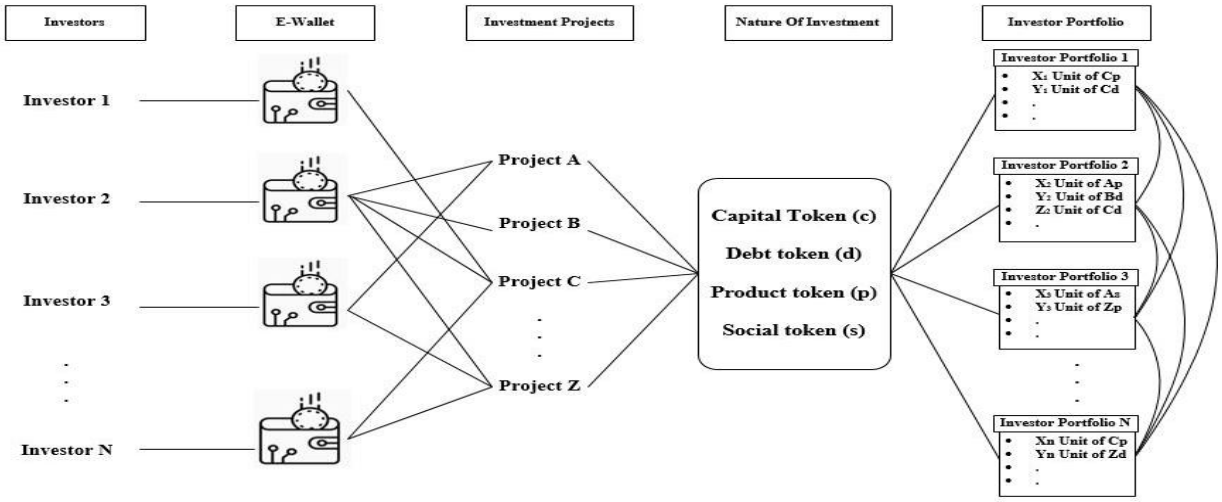

Figure 2. HamiChain Network

After examining the importance of indicators and identifying desirable features from the perspective of investors and project teams, the proposed model was compared to traditional financing methods based on indicators such as transparency, cost, speed, etc. (Table 5).

Table 5. Comparing financing methods with the proposed model

Methods of financing	Cost of financing	Speed of financing	Transparency of project costs	Right Of Ownership	Changing the nature of investment	Participation in the process	Sell ahead of time	Smart contracts
Shares	High	Low	-	+	-	-	+	-
Investment bonds	High	Low	-	-	-	-	+	-
Bank facilities	Low	Low	+	-	-	-	-	-
Venture capitalists	Low	High	+	+	+	+	-	-
Financial Aid Centers	Low	Low	+	-	+	+	-	-
HamiChain Platform	**Low**	**High**	+	+	+	+	+	+

+: It has this feature
-: It does not have this feature

5. Discussion and conclusion

Traditional financing models such as bank loans and investment bonds are not suitable for startup projects and creative ideas of student teams due to the nature of the bonds and repayment terms; therefore, the need for novel financing models based on new frameworks such as blockchain

is felt more than ever. Given the creative and innovative ideas available in university centers and Science and Technology Parks, one of the reasons for the lack of realization of these ideas is the absence of required funding to start a business. Many solutions have been designated to solve this problem, such as the facilities of Growth Centers, prosperity funds, and the no-return loans of Science and Technology Parks. Yet this has not been enough for the high volume of creative projects and ideas, and the amount of capital has not been sufficient for setting up the projects and achieving the goals. The solution presented in this article is a combination of institutional and organizational financing and microfinancing by investors with various risk levels. This issue was also emphasized in the research conducted by Taheri Tolu et al. (2022).

Using digital tokens and e-wallets will allow investors to invest in different projects simultaneously through HAMI Tokens. The ability to switch their risk levels in the project, and balance the risk between shareholders and participants or customers, will demonstrate investors' freedom to receive a return appropriate to their investment method. Investment security and registration of ownership of digital assets in the blockchain will be an attraction for investors to prove their stakes in the project; since their investment can be liquidated based on the market value of the assets at any time. This capability has been emphasized in the research conducted by Rodríguez-Garnica and Benedetti (2022) and Gurdgiev and O'Loughlin (2020).

By using the distributed ledger in the supply and demand of investment tokens, we will see the possibility of transparent SMART contracts and monitoring of transactions, not abnormal fluctuations in the value of assets. Using blockchain technology unites a network of investors with the project team. This creates great potential for the growth and success of the project. This mechanism will be a marketing technique and guarantee future sales of the final product or service. In terms of accuracy, the results of the proposed model are consistent with the research of Wang and Xu (2022) and Safina and Oseni (2019).

This approach comprises various risk levels based on the type of investment token in projects: from high-risk capital tokens to low-risk tokens similar to bank investments. This mechanism allows even those willing to invest in creative projects using a low-risk approach to enjoy a benefit accordingly. In addition, customers of a product or service that accompany the project from the beginning and participate in funding can be prioritized in attaining it based on the special discount offered at the beginning of the project. This after the proposed model is a confirmation of the projects done by Banerjee and Bose (2022) and Bessière and Stéphany (2022).

In general, the proposed model can be considered an approach for facilitating the implementation of ideas and projects. By implementing and using the SMART financing model for businesses in the blockchain platform, the following potentials will be available to beneficiaries, here presented as practical suggestions.

- Industrial and manufacturing companies can use this model as an alternative to traditional financing methods such as debt or capital increase to attract microfinancing participation in development projects. Science and technology parks, growth centers of universities, and Entrepreneurial funds can use this model to direct small amounts of passive capital toward knowledge-based companies and new student ideas in various economic sectors. Students, innovators, and innovative companies who don't have enough capital to implement their plans can use this platform to finance and reach their ideas in a smart and risk-free way.
- Reducing financing costs, investment transparency, creating a market for the sale of future products, project risk distribution among investors, and other things will be among the desirable features of this approach for the company and industry managers.
- Using this model, investors' assets are updated based on the desirability of supply and demand

of digital tokens. In addition to preserving the value of the investors' assets, this feature helps to manage the project's finances and prevent budget deficits.

According to the explained advantages and capabilities, the following suggestions and guidelines are provided for future researchers to improve and expand the achievements in the field of business financing:

- The process of registering shares and assets of companies after the redemption of project tokens will be one of the challenges in accounting that should be considered in accounting standards and audits by auditors.
- The failure of some projects and the repayment of funds based on the obligations of the project team are among the challenges of financing contracts and may lead to legal prosecution and create problems due to the failure of the project and the inability to cover the repayment obligations. Researchers in the field of financial law can conduct related research in this field.
- The attractiveness of electronic investments in startup projects can lead a wide range of investors to these platforms. In this situation, a suitable opportunity is provided for researchers in social studies and investigating the behavior of investors regarding their preferences and habits.

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