

BUILDING A CAPITAL MARKET FOR START-UP ENTERPRISES CONTRIBUTING SUCCESSFULLY TO INDUSTRIALIZATION AND MODERNIZATION

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Summary:

Startups in the field of science, technology, and innovation (STI) are becoming increasingly important to economies, because its research and application of technology can lead to output increasing and contribute a solid economic development. Government funding always plays an important and decisive role in helping and creating a premise and motivation for startup's technology research and application. However, due to increasingly high costs, state budget funding shortage, and regulations limiting subsidies... it is necessary to have capital mobilization methods for effective startup STI funding that can create a driving force for sustainable development in the future. The capital market is a part of the financial market that plays an intermediary role in facilitating and regulating the flow of money from places with excess capital to places in need of capital. Normally, to mobilize capital through this capital market, enterprises often must meet legal criteria such as capital criteria, business performance results, and corporate governance... These legal criteria are big obstacles for startups. Therefore, researching and building a specific Startup's Stock Exchange floor will create opportunities for startups to access the capital market/stock market to mobilize capital easily and at lower costs.

Keywords: Industrialization and modernization; Stock market; Startup exchange.

Code: 23101001

1. Introduction

The STI development may understand as a process of upgrading technological capabilities to increase productivity, diversify activities, and thereby enhance competitiveness. Technological capacity is often defined as the ability to create, absorb, and mobilize knowledge, develop new technologies as part of the process of production and industrial innovation. The only path connecting research ideas, and applications to profits is capital. Capital for STI development is beneficial for improving the quality of the scientific and technological achievements conversion and for optimizing resource allocation. The capital needs for STI development are different, depending on the type and scale of the project. The STI ecosystem include many subjects, characterized by diversity, self-organizing adaptability, stable balance, and dynamic development. Among them, the allocation of innovative resources such as technology, capital, policies, and

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information are gradually formed by the self-organization of innovative entities based on market laws and reflects the dynamic adaptive ability of startups. For example, a startup in the early stages of development relies mainly on self-funding or funding from family and friends, then may seek funding from angel investors, venture capital, and other funding support. When entering a period of rapid growth to maturity, the competition model and relatively stable profits, innovation activities focus on developing new products and upgrading technology, and the main source of capital comes from bank credit and capital markets. However, access to these sources of capital also requires the compliance with many conditions, so to promote it, it is necessary to study a separate model, to stimulate capital sources for technology transfer and startups development.

Industrialization is the process of transforming a country with a backward economy into a modern industrialized country with advanced technology, high labor productivity in various sectors of the economy. Modernization is the process of utilizing every possibility to achieve increasingly advanced and modern technological levels, which requires significant funding. To achieve the goals of industrialization and modernization, the role of STI is becoming increasingly important because they are responsible for optimizing tasks, considering modern realities, such as improving professionalism in management, the effectiveness of risk prevention policies, and more. Industrialization and modernization need to focus on developing: (1) STI for creating new industries, innovative products that meet the needs of the public customers and suitable for the 4.0 technology era; (2) formulating mechanisms to: a) modernize industries that are in the formation and development stage, without/or lack of access to financial resources; b) shift traditional industries that are in the decline stage and no longer generate revenue (but are still necessary for the economy) to infrastructure, and social projects operation methods.

Besides private funding sources, startups rely on bank loans to conduct STI research. However, since the financial crisis, access to bank loans has become difficult due to tightened lending criteria and stricter capital requirements related to Basel III². In that context, startups are shifting to seek the market-based funding, so the capital market is increasingly becoming a source of finance for startups with advantages such as: (i) Increased access to capital through an organized, transparent, orderly and reliable market; (ii) Unlike borrowing, equity financing does not require principal and interest repayment obligations that can put pressure on a company's cash flow; (iii) Access to equity capital and listing on the stock exchanges, enterprises can benefit from positive impacts due to better operating principles, quality management, and transparency for investors, suppliers, and potential customers; (iv) Appropriate funding options for a startup issuing organization will depend on many factors, including development stage,

² Risk management standards are widely applied internationally and are being targeted by the Vietnamese banking system.

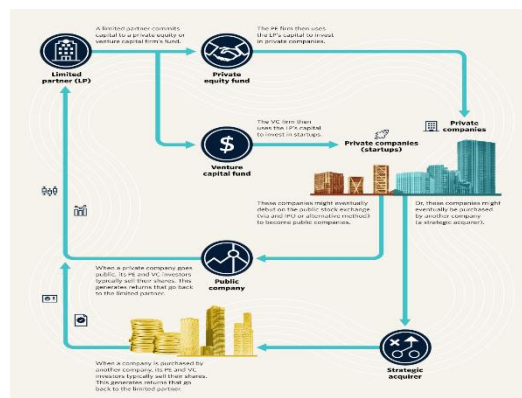
business plan, industry segment, management experience, and marketing experience; (v) Startups choose to raise equity capital when borrowing interest rates may be higher than the cost of self-capital, or the cost of listing on the capital market requires strict compliance with regulations.

For the above reasons, the role of the stock market is increasingly important in providing feasible options for startups to access market-based financing, while meeting the needs of different parties. By providing startups with specific entry requirements and regulations that are suitable for their characteristics with lower costs, high liquidity, and a more diverse investor base on a transparent platform and compliance with all parties involved.

2. Main contents

2.1. Access to capital market

Startups with research ideas and have gathered a talented team to help turn research into reality. At that point, startups will choose to access traditional capital (family, friends, banks), venture capital (VC), angel investors (AI), private equity (PE). However, another option is through the capital market/stock market, which is a more complex and time-consuming process than seeking venture capital or angel investors. On the capital market/stock market, transparency about finances is required, and it is important to ensure a solid business plan and financial forecast before starting the process.



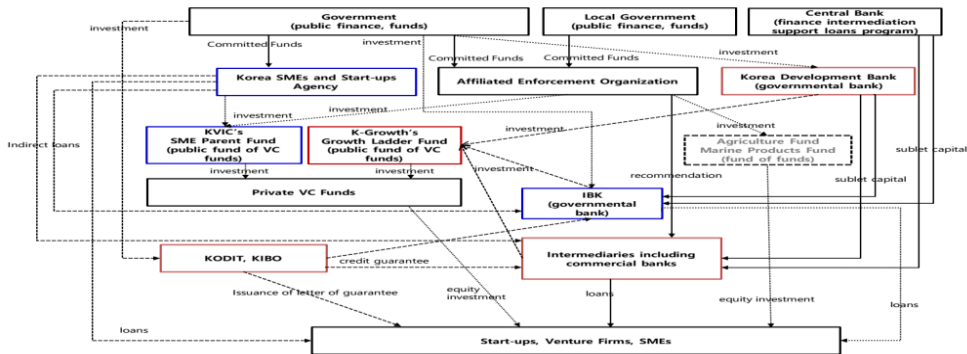
Source: pitchbook.com

Figure 1. The cycle of venture capital and private equity financing.

The capital market is where companies raise money by selling securities, such as stocks and bonds. This is different from borrowing, because with a loan the company must pay back money along with interest. With securities, the company is selling a part of its business and does not have to pay back anything. There are two main types of securities: equity securities, which are sold when a company sells its stock, and debt securities, which are sold when a company sells its bonds.

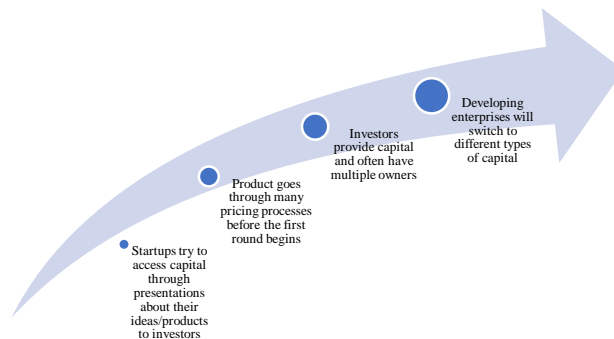
Equity securities are usually the best way to raise capital for startups because they do not have to pay back anything and can earn money without taking on debt. The downside is that it is riskier for investors because they are investing in a company that has no track record. Debt securities are a safer investment for investors because the company must pay back the principal and interest. The downside is that it is more expensive for companies because they must pay back the loan plus interest.

When a startup approaches the capital market, the first step in raising money is to determine what type of security will be issued. Once the type of security has been determined, the next step is to determine the price of the security. The price is determined by supply and demand for the security. After the price has been determined, the next step is to find buyers for the security through brokers, investment banks, or other financial organizations. Then, the terms of the sale are negotiated, including the price, the number of securities to be sold, the interest rate, and completion when the securities are transferred to the buyer. The buyer then pays for the securities with cash or a loan, and the amount raised is used to finance the startup.



Source: global.krx.co.kr

Figure 2. Funding flows for Startups



Source: *Startup Funding Stages*

Figure 3. Different steps in the capital market access process

The main goal of accessing the capital market is to raise capital, and it also benefits startups by enhancing their reputation and public presence, which can boost revenue and profits. At the same time, it can help enterprises reduce the cost of capital for both equity and debt.

2.2. Problems arises when building the capital market

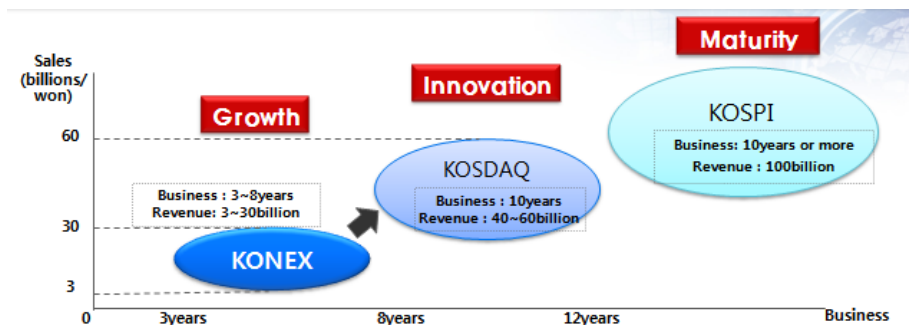
The stock market is a part of the financial market that acts as an intermediary to create favorable conditions and regulate the flow of money from those with excess capital to those in need. Companies can raise capital through the market when they meet specific regulatory requirements. In fact, startups have contributed significantly to job creation and economic growth. Therefore, the idea of building a capital market to meet the financial needs of this segment needs to be realized. Building and developing stock exchanges market is one of many options for providing capital to startups in ladder stages, usually linked to the life cycle or growth stage of the business. This ladder usually progresses from the startup phase, funded by entrepreneurs, family, and friends, to the early stage when bank loans are sought. Then, the shareholder structure is expanded to include VC investment, and in the growth stage, PE financing is often sought. Building a capital market model for this type of financing requires attention to:

Regarding organizational structure, it can be structured as follows: (i) Separate boards or market segment are located within the main market to: a) benefit from the reputation and experience of the main board, which reassures issuers and investors in the market and b) be financially feasible, with lower costs for issuing organizations and intermediaries, smaller issuance scale, fewer enterprises, and lower liquidity, leading to lower listing and trading fees. The prospect of joining the main market can also be an attraction for some of these enterprises; (ii) to successfully develop an startup stock exchanges market, it is also necessary to be willing to accept some risks that lower quality of listed enterprises, liquidity, investor perception, and information disclosure can reduce the credibility of the main market; (iii) Rules can be changed or applied depending on the scale of the business, for example, the Australian Securities Exchange (ASX) has more flexible regulations for enterprises under AUD 300 million than for enterprises over AUD 300 million; (iv) stock exchanges market is completely separate, such as the GreTai market, which is one of the few completely independent SGD, not linked to the Taiwan Stock Exchange. A typical example is South Korea, which is one of the countries that have been quite successful in building a stock market specifically for startups. KONEX³ officially started operating on July 2, 2013, with the purpose of helping startups raise capital in the market and supporting VC firms in recovering medium-term investments. KONEX is simply understood as a government incentive for startups with relatively relaxed listing conditions,

³ KONEX = Korea New Exchange

such as low listing costs, information disclosure obligations, finances, etc., which reduces some of the financial pressure, usually a burden for newly established enterprises. Before KONEX was established, Freeboard was a well-organized free-market capital market. However, trading on Freeboard is infrequent and therefore it loses its function as a capital market. The regulator eventually discontinued Freeboard by establishing KONEX and the new K-OTC board to allow for easier and more transparent transactions.

KONEX establishes a perfect cycle from starting a new business to growing the business and recovering investment capital or reinvesting, creating more investment opportunities for startups. Before KONEX was established, VC firms had no effective way to recover their capital. The only way to recover investment capital on KOSDAQ4 is through IPOs, but the strict listing requirements of the stock exchanges market have hindered easy IPOs, and KONEX has promoted these secondary transactions. It is noteworthy that stocks listed on KONEX tend to be riskier, mainly due to lower listing requirements, so investor protection is weaker. To protect investors effectively, individual investors are not allowed to invest in KONEX. Only institutional investors, pension funds, qualified individual investors, and approved financial institutions can invest in new transactions on KONEX.



Source: fsc.go.kr

Figure 4. Access to capital according to the growth cycle

After 10 years of operation (until July 2nd, 2023), the total market capitalization of KONEX has increased more than 10 times to 4.2 trillion Won (approximately 3.2 billion USD) from 400 billion Won. The number of listed companies has also increased more than six times from 21 to 127 in 2013. KONEX has completely taken on the role of a growth ladder for startups. In the past 10 years, KONEX has successfully transferred 91 enterprises to the KOSDAQ market and raised

⁴ Korean Securities Dealers Automated Quotations, Trading Council of the Korea Stock Exchange.

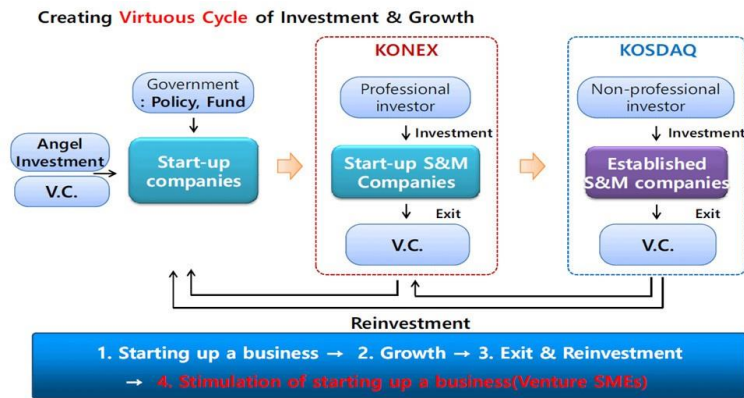
over 2 trillion Won in the market. KONEX operates as a smooth channel to attract capital and investment opportunities in STI, contributing to building a healthy business environment. The employment efficiency of startups is three times higher than the average level of domestic enterprises. In addition, startups are the roots of technological innovation, the core of business spirit, and the national competitiveness.

On January 23rd, 2019, the National Development and Reform Commission of China approved a plan and guidelines for the STAR market. On March 1st, 2019, the China Securities Regulatory Commission (CSRC) and the Shanghai Stock Exchange (SSE) issued the main rules and guidelines for the STAR market, which officially launched on June 13th, 2019. The SSE STAR market is a stock market focused on science and technology, established on July 22nd, 2019. While SSE and Shenzhen Stock Exchange (SZSE) allow the stock price to fluctuate up to 44% on the first trading day, then limit it to 10%, SSE STAR has no limit on stock price fluctuations during the first 5 days of trading. In March 2020, China's Securities Law, which regulates securities issuance, was amended. The new law will apply a registration system to all IPOs after the STAR system has been successfully tested. According to the Financial Times in June 2022, the IPOs in 2022 on the stock exchanges are nearly 35 billion USD, with the majority being on STAR and ChiNext, the technology-oriented board of SZSE.

Regarding participation criteria, the question often raised is whether startups and micro-enterprises should be allowed to participate or not. It is often assumed that these entities are not suitable for capital markets because of the costs such as prospectuses, annual reports, financial statements, annual meetings, and staffing requirements to meet continuous listing requirements. Allowing startups to enter the market requires a greater compromise between the pros and cons of market quality that could damage the stock exchange's reputation, especially in the early years, when distrust of investors in the integrity of the market is extremely difficult to repair.

Regulations for participating in the stock Exchange, basic regulations of KONEX: (i) Requires enterprises to have 5 million USD in equity, 1 million USD in annual revenue or 0.3 million USD in current income listing time; (ii) Enterprises are exempt from submitting a preliminary prospectus if they meet certain conditions. Although the requirement to submit a preliminary prospectus is intended to protect investors, it also imposes significant costs on listed companies; (iii) In private placement of shares, KONEX does not require lock-up agreements like KOSPI and KOSDAQ; (iv) KONEX imposes fewer restrictions on public announcements, enterprises listed on KONEX only publish their business reports once a year, while enterprises listed on KOSPI or KOSDAQ must make public announcements quarterly; (v) While enterprises listed on KOSPI and KOSDAQ must promptly notify important incidents, companies listed on KONEX do not face this requirement; (vi) Listed companies on the stock market must follow Korean International Financial Reporting

Standards on accounting practices, while KONEX enterprises are not required to do so; (vii) Companies that have been on KONEX for more than one year are exempted from many standards when moving to KOSDAQ.



Source: fsc.go.kr

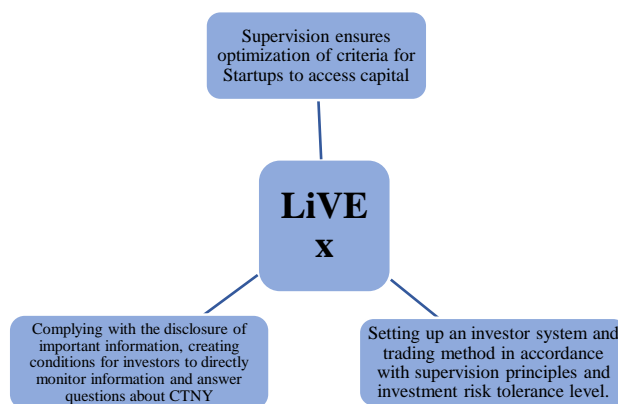
Figure 5. Capital raising process

In Thailand, startups have financial difficulties in raising capital with angel investors, venture capital funds and the Stock Exchange of Thailand (SET). Considering the nature of a Startup as a small business that starts its business using a small amount of capital, it is difficult to meet the current requirements to list on the SET and raise capital through the IPO process, even though little capital needs to be mobilized. Therefore, the Securities and Exchange Commission (SEC) and SET launched LiVE Exchange (LiVEx) with the purpose of providing Startups with a platform to raise capital through issuing shares to the public. Registration for listing on LiVEx begins at the end of March 2022. To list securities on SET, issuers must have a minimum paid-up capital of 300 million Baht, while MAI5 requires a minimum paid-up capital is 50 million Baht. In contrast, LiVEx does not impose a minimum paid-up capital restriction, meaning that a business that cannot meet the minimum paid-up capital requirement is still eligible to raise capital through a public offering on LiVEx.

SSE STAR for the first time does not require a positive net profit nor an IPO requirement, a PE ratio (whereas the main stock exchanges are around 23), no price limit for the first 5 trading days and only $\pm 20\%$ from the sixth trading day. These incentives will help develop China's technology sector and improve the price discovery function of the stock market. STAR stipulates four types of conditions that can lead to delisting, including violations of law, irregular trading, poor financial performance, and serious compliance issues. STAR implements a T+2 payment cycle.

⁵ Market for Alternative Investment (MAI)

Regarding investors, participants in Startup Stock Exchanges tend to be local people and mainly individual investors due to easier access to information than foreign investors and because for many investors organization, issues of too small business size and lack of liquidity, reputation, access to information, governance, and risk profile. Thailand's LiVEx regulations limit participating investors as follows: (1) institutional investors, for example: commercial banks, securities enterprises; (2) venture capitalists and private equity firms; (3) persons with investment experience and expertise, e.g., fund managers or SEC-approved investment analysts; (4) persons who have a regulatory relationship with the issuer, for example, directors, executives or major shareholders; (5) high net worth investor or ultra-high net worth investor, with knowledge or experience and financial status according to regulations, e.g. investor with sufficient knowledge of securities investment and have a direct investment of not less than 8 million Baht in the case of a natural person or 15 million Baht in the case of a legal entity. Payment due date is on a T+1 basis (securities are delivered and settled within 1 business day).



Source: *set.or.th*

Figure 6. Role of LiVEx stock exchange

Since the beginning of 2022, participating investors do not have to fulfil the minimum deposit requirement of 30 million Won (\approx 25,000 USD) to invest in listed companies and maintain an investment account with an annual balance up to 30 million Won, which is considered an obstacle to investing in Korea's KONEX. Instead, it will provide investors with advanced warning notices about the risks of investing in enterprises listed on KONEX, settlement cycle T+2.

Regarding costs, reduced or free listing services, custody services and market making services. These costs can be high, such as disclosure and investor relations. Disclosure and investor communication costs can be reduced by using an off-the-shelf disclosure system that does not require printed materials.

Table 1. Fees applied at some stock exchanges

Stock Exchange	Listing Fees
NSE Emerge- India	40% of the listing market fee
JSE AltX- South Africa	Has a separate fee structure for initial stock listing and annual listing fees. Document fees are the same as participating in the listed market.
GreTai- Taiwan	The initial listing fee is \$16,667 (equivalent to 500,000 TWD). The annual fee after registration is based on the company's market capitalization.
Bovespa Mais- Brazil	Waives some fees for enterprises, such as registration fees, liquidity provision fees, and gradually discounts annual fees until the fourth year.
WSE NewConnect- Poland	Transaction-related fees are based on a fixed exchange rate and are not dependent on the company's market capitalization, at around \$1,000 per year.
BIST ECM- Turkey	Trading and custody fees are reduced to 1/10 of the main market. The market council fee is reduced to 1/5. Participation fee is 0.01% of the offer price (0.2% for the main market).
LiVEx- Thailand	Registration fee - 12,000 Bath; Initial fee: 0.0125% of the paid-up capital (Minimum: 5,000 Bath - Maximum 300,000 Bath); Annual fee 0.010% of the contributed capital (Minimum 5,000 Bath - Maximum: 300,000 Bath)
KONEX- South Korea	Transaction fees decreased from 0.2% to 0.1% (21/32019); Other tax fees according to the provisions of the Tax Reform Law effective from January 1 st , 2023.

Source: compiled by author

Regarding market supervision and management, international experience shows that the stock market plays an important role in serving the specific financial needs of Startups. In the early stages, when enterprises generate little revenue and there is high information asymmetry, access to most formal sources of finance is limited and one must rely on their own savings or initial capital. Startups that develop to a certain level can issue securities on the Stock Exchange. Sound financial management and monitoring frameworks help improve access to capital. The market supervision and management roles performed by regulatory agencies and trading exchanges often include compliance monitoring, transaction monitoring, checking legal documents and handling complaints against issuers (Startup). Develop monitoring criteria and sanctions when regulations are violated and if the behavior constitutes a criminal or civil offense, the case will be referred to appropriate law enforcement agencies. Typically, the Securities and Exchange Commission's compliance and enforcement division is responsible for monitoring startups' compliance with regulatory requirements, including violations of directors' duties and preparation of misleading documents. and do not submit financial reports. A sound financial

supervision management framework helps increase access to capital and address potential risks as well as support extensive and comprehensive financial programs for Startups.

3. Conclusion

Vietnam was very early aware of the role and importance of industrialization and modernization of the country. Right from the 11th Party Congress, in the Socio-Economic Development Strategy for the period 2011-2020, the content of transforming the growth model and restructuring the economy was determined as follows: “Transforming the growth model from mainly extensive development to reasonably between extensive and intensive development...”⁶. The 12th Congress continued to set out the task of restructuring the economy associated with transforming the growth model, specifically: “Continuing to promote the implementation of comprehensive, synchronous restructuring of the economy, and sectors and industries associated with transforming growth models...”⁷. Documents of the 13th National Congress continue to mention the above contents and emphasize that the new growth model needs to take good advantage of the opportunities of the Fourth Industrial Revolution, based on STI progress. Specifically: “Continue to promote transformation of economic growth models, strongly shifting the economy to a growth model based on increased productivity, STI progress, and high-quality human resources, and economical and effective use of resources to improve the quality, efficiency and competitiveness of the economy. Improve the investment, and business environment, promote innovative startups, develop industries, sectors and enterprises based on strong application of achievements of science and technology, especially of the fourth industrial Revolution; Develop products with competitive advantages, high-tech products, with high added value, environmentally friendly, and effectively participate in production networks and global value chains”⁸.

Industrialization and modernization are identified as important contents to shorten the time to bring our country to become a modern industrialized country. To achieve the set goals, it is necessary to solve financial difficulties, so it is necessary to research the formation of a “playground” for Startups in general and for STI on the stock market. It is necessary to narrow the financial access gap to meet the capital needs for startup’s business development, growth, and success. Decision No. 569/QĐ-TTg dated May 11th, 2022 of the Prime Minister promulgating the STI Development Strategy to 2030 stipulates the task of proactively promoting cooperation, international integration in STI. The State creates conditions to promote enterprises to participate in international research

⁶ Documents of the 11th National Congress, Publishing House. National Politics Truth, 2011, p. 107

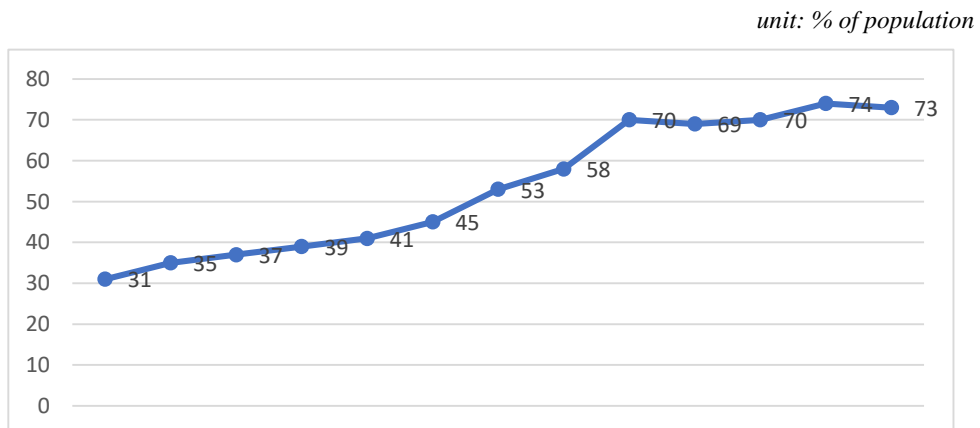
⁷ Documents of the 12th National Congress, Publishing House. National Politics Truth, 2016, p. 88-89

⁸ Documents of the 13th National Congress, Publishing House. National Politics Truth, 2021, p. 120-121

alliances (introducing and guaranteeing Vietnamese enterprises to participate in research and receive technology transfer...).

Developing a separate stock exchanges floor for Startups is clearly a challenge. Before embarking on implementation, it is necessary to determine the context and methods of support, and most importantly, the capital source that is ready to be used for enterprises to mobilize capital, investor concerns and support from the Government and management agencies in terms of both the legal environment and market infrastructure. Government commitment is also a key factor, as the Government's efforts can affect the success of the stock exchange. The same is true for developing any market, technical challenges are relatively easier to solve than structural challenges such as corporate culture, base size of investor, economic environment, and macro politics.

According to NIC's report⁹, over the past decade, the Government of Vietnam has continuously promoted digital economic development, considering this a high priority goal in national development strategies. In 2022, Vietnam's digital economy will grow by 28% compared to 2021 from 18 billion USD to 23 billion USD, the highest increase in Southeast Asia. Furthermore, Vietnam's digital economy is forecast to grow twice as fast as GDP by 2030 (19% compared to 9%). Vietnam has made significant strides in improving innovation indicators, taking advantage of its strengths to quickly catch up with the world in the field of technology. Digital infrastructure is increasingly developing, people are proficient in technology and innovative startups in Vietnam are growing strongly, especially with the emergence of large companies in the field of e-commerce and Fintech. Vietnam's digital economy is forecast to have a rapid growth rate of 31% in the period 2022-2025.



Source: NIC, 2023

Figure 7. Percentage of internet users in Vietnam (2011-2022)

⁹ Report on innovation and technology investment in Vietnam 2023.

On June 13th, 2023¹⁰, attending the Asia-Pacific Regional Subcommittee meeting, the Vietnam representative gave a speech, stating “with the goal of helping small and medium-sized enterprises innovation on the basis of S&T development, easier access to capital for development, currently, the State Securities Commission and the Ministry of Finance of Vietnam are in the process of researching and developing an establishment project of Capital stock Exchange for startups and innovative enterprises with the synchronous policies and legal frameworks, in accordance with international practices”.

Accordingly, in the process of researching the establishment of Capital stock Exchange for Startup, it is a complex topic and needs to resolve issues such as prerequisites for establishment such as legal framework, participation criteria, operating mechanism, and regulations. management and supervision process... to create a favorable environment for participating parties, and at the same time, ensure the stability and transparency of the stock market. Management bodies need to play a role in educating enterprises about the benefits of participating in the market compared to other sources of finance, and in that case, listing on the stock market is the preferred route for entrepreneurs. Research the cooperation mechanisms and community outreach through intermediary organizations, auditors, and industry associations to help the investment community realize the benefits of participation./.

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