

Challenges and Opportunities in Preparing Life Sciences Businesses for Sustainable Capital Market Entry

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ARTICLE INFO	ABSTRACT
Received: 14 Dec 2024	The life sciences industry is a high-potential economic sector that plays a crucial role in driving innovation, technology, and medical services in Thailand. However, entrepreneurs in this sector face significant challenges in accessing capital markets. This study aims to analyze the factors influencing the ability of life sciences businesses to achieve sustainable capital market entry by applying the frameworks of Knowledge Management, Business Networks, and the Timmons Model of Entrepreneurship, which emphasizes three key elements: Opportunity, Resources, and Team. This qualitative study gathered data through workshops held across four regions of Thailand: Bangkok (Central), Chiang Mai (North), Udon Thani (Northeast), and Phuket (South), complemented by in-depth interviews with industry experts, investors, and representatives from government and private sectors. The findings reveal that major barriers to capital market entry for life sciences entrepreneurs include founders' attitudes toward equity financing, market uncertainty, stringent regulatory requirements, and the complexity of listing processes. Conversely, facilitating factors include government support, business networking, and technological infrastructure development. Moreover, the study identifies that effective promotion of the LiVE Exchange can enhance access to investors and foster sustainable business growth. Based on these findings, this research proposes strategic recommendations to support life sciences businesses in successfully entering capital markets. These include enhancing organizational readiness, improving management systems, and strengthening public-private sector collaborations to boost investor confidence. Keywords: Life Sciences, Capital Market, Knowledge Management, Entrepreneurship, Investment.
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INTRODUCTION

The life sciences industry is one of Thailand's high-potential sectors, encompassing pharmaceuticals, medical devices, cosmeceuticals, and healthcare services. In recent years, Thailand has emerged as a regional hub for medical innovation and biotechnology, benefiting from its robust healthcare system, skilled workforce, and government-driven initiatives aimed at promoting life sciences development. The Thai government has actively supported the industry through policies such as the Thailand 4.0 economic model, which emphasizes innovation and technology-driven growth, as well as the Eastern Economic Corridor (EEC) initiative, which aims to attract high-value investments in biotechnology and medical industries [1].

However, preparing life sciences entrepreneurs for capital market entry remains a major challenge. Success factors for this sector include technological development, government policy support, and access to financial resources [2] [3]. Despite these opportunities, several barriers hinder the growth of Thai life sciences businesses, including regulatory complexity, high capital requirements, and limited financial literacy among entrepreneurs. Many small

and medium-sized enterprises (SMEs) in the sector struggle to access investment capital due to strict compliance requirements and a lack of awareness regarding financial instruments available in the capital market.

The Thai Stock Exchange has attempted to address this issue by launching the LiVE Exchange, a funding platform designed to help SMEs and startups raise capital efficiently. However, the adoption rate remains low due to limited awareness and concerns over market readiness. This research aims to analyze the structural and regulatory challenges preventing Thai life sciences businesses from successfully entering the capital market while exploring strategies to enhance their financial preparedness and investment attractiveness.

This study examines the development of life sciences entrepreneurs in Thailand through knowledge management activities. Data were collected from workshops conducted in four key regions. The study synthesizes lessons learned to develop strategic recommendations for effective market entry, using the Timmons Model, which emphasizes balancing Opportunity, Resources, and Team to ensure a successful transition into capital markets [4].

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

This study applies the concepts of Knowledge Management [5] and Business Network Development [6] to analyze the entrepreneurial growth process in life sciences. These frameworks highlight the importance of knowledge exchange and collaborative networks in ensuring business success, particularly in highly complex industries such as life sciences [7].

Additionally, the research adopts the Timmons Model of Entrepreneurship [4], which focuses on three core components:

Opportunity: Identifying high-potential business opportunities in the life sciences sector based on economic trends, innovation, technology, and market demand [8].

Resources: Business expansion in life sciences requires essential resources such as funding, knowledge, technology, and business networks. Access to these resources is crucial for success [9].

Team: A strong management team is fundamental to sustainable business development. Entrepreneurs with competent teams are better equipped to handle challenges and adapt to changing environments [10].

Further theoretical perspectives supporting this study include the Resource-Based View [11], which emphasizes that a firm's sustainable competitive advantage stems from its unique resources and capabilities. This is particularly relevant in life sciences, where intellectual property, research expertise, and proprietary technologies serve as critical competitive factors. The Institutional Theory [12] is also applied to explain how regulatory, normative, and cognitive institutional forces shape the ability of life sciences businesses to enter capital markets. These theories complement the study by providing insights into how firms can leverage their internal strengths while adapting to external institutional constraints.

Moreover, the Dynamic Capabilities Framework [13] highlights the importance of firms' abilities to integrate, build, and reconfigure internal and external competencies in response to rapidly changing environments, a critical factor for life sciences firms navigating stringent regulations and evolving market dynamics.

Another relevant theory is the Stakeholder Theory [14], which emphasizes that businesses must consider the interests of multiple stakeholders, including investors, regulatory agencies, customers, and employees, to achieve sustainable growth. In the context of life sciences businesses entering capital markets, stakeholder engagement and transparent communication are crucial for securing investor confidence and regulatory approval.

Additionally, the Signaling Theory [15] provides insights into how firms can use financial disclosures, technological advancements, and governance structures to send positive signals to potential investors, reducing information asymmetry and increasing market credibility.

RESEARCH METHODOLOGY

This study employs qualitative research methods, collecting data from knowledge-sharing workshops and expert interviews in four regions of Thailand: Bangkok, Chiang Mai, Udon Thani, and Phuket. These activities aimed to facilitate knowledge exchange on business development and capital market entry, involving participants from government agencies, private sector stakeholders, and investors.

Participants:

- Government representatives from agencies such as the Thailand Center of Excellence for Life Sciences (TCELS), the Capital Market Development Fund (CMDP), the Securities and Exchange Commission (SEC), and the Ministry of Industry.
- Private sector entrepreneurs in life sciences, including biotechnology, medical technology, pharmaceuticals, and medical devices, along with research and development institutions.
- Investors and financial consultants from domestic and international capital markets, providing insights into investment readiness and business funding strategies.
- Academics and industry experts specializing in life sciences innovation, knowledge management, and business administration.

Data Collection and Analysis:

- Workshops and focus group discussions were conducted in each region.
- Content analysis was applied to synthesize insights from workshop proceedings and expert interviews using Miles & Huberman's (1994) qualitative data analysis approach.
- Semi-structured questionnaires were utilized to assess participants' perceptions of market readiness, challenges, and opportunities.

FINDINGS AND DISCUSSION

Key Barriers to Capital Market Entry:

The study found that life sciences entrepreneurs in Thailand face multiple challenges when attempting to access capital markets. The primary barriers include:

Regulatory Complexity: Entrepreneurs struggle with the stringent and evolving regulatory framework, which requires compliance with international standards such as GMP (Good Manufacturing Practice) and FDA approvals. Many SMEs lack the expertise and financial resources to meet these requirements. Compared to developed markets, where regulatory agencies provide more streamlined approval processes and greater financial incentives, Thailand's regulatory framework remains an obstacle that delays market entry.

High Capital Requirements: Entry into the capital market requires significant upfront costs, including legal, accounting, and advisory fees. Many life sciences businesses, particularly startups, lack sufficient capital to navigate these financial barriers. Studies on capital-intensive industries [16] indicate that many early-stage firms struggle due to a lack of access to venture capital and public funding. Without structured investment mechanisms, these firms fail to reach commercialization.

Limited Financial Literacy: Many entrepreneurs have a strong background in science and technology but lack an understanding of financial planning, investment structuring, and capital market mechanisms, limiting their ability to attract investors. This aligns with findings from previous studies [9], which highlight that technology entrepreneurs often overlook the importance of financial expertise in scaling their businesses.

Market Uncertainty and Risk Perception: Investors perceive life sciences businesses as high-risk due to the long development cycles, stringent regulatory approvals, and unpredictable market trends. This risk aversion leads to lower investment inflows. A comparison with international markets reveals that in economies with stronger venture

capital ecosystems, investors are more willing to take calculated risks, whereas in Thailand, the financial ecosystem remains conservative.

Factors Facilitating Capital Market Entry:

Despite the challenges, several factors can enhance the ability of life sciences businesses to successfully enter the capital market:

Government Support and Incentives: Policies under Thailand 4.0 and the Eastern Economic Corridor (EEC) initiative provide tax incentives, funding programs, and investment facilitation for life sciences businesses. Government-backed incubators and accelerators also play a role in enhancing market readiness. These programs have parallels with those in Singapore and South Korea, where strategic public-private partnerships have driven life sciences growth.

Business Networking and Industry Collaboration: Entrepreneurs who engage in strategic partnerships with universities, research institutions, and venture capital firms are better positioned to access funding and expertise. Business networking platforms, such as Thailand's Biotech and MedTech associations, facilitate connections with potential investors. Studies [6] indicate that strong business networks contribute significantly to reducing information asymmetry and improving funding access.

Technological Advancement and Intellectual Property: Businesses with strong R&D capabilities, patents, and proprietary technologies are more attractive to investors. The study found that firms with well-established intellectual property rights had a higher probability of securing investment. Research by Zucker, Darby, and Armstrong (2002) [17] confirms that life sciences firms with strong patent portfolios have a competitive advantage in securing IPOs and venture capital funding.

The Role of LiVE Exchange: The Stock Exchange of Thailand's LiVE Exchange provides an alternative funding platform for SMEs. Although awareness remains low, this initiative has the potential to bridge the funding gap for early-stage life sciences companies. Similar SME-focused capital markets in Japan and Germany have successfully increased access to funding for high-growth startups, indicating that targeted awareness and investor education could improve participation in LiVE Exchange.

Case Studies of Successful Market Entry:

The study examined several life sciences businesses that successfully navigated capital market entry. The following key strategies were identified:

Company A (Biopharmaceuticals): This company leveraged university partnerships to develop cutting-edge biologics. By securing joint research funding and licensing agreements, it demonstrated commercial viability, which helped attract venture capital investment before transitioning to the public market. This strategy mirrors successful biopharma startups in the U.S. that establish research collaborations to validate their technology before seeking public investment.

Company B (Medical Devices): Focused on obtaining international certifications (ISO and CE marks) early in the development process, which increased investor confidence. The firm also engaged in cross-border collaborations with medical research institutions, opening additional funding avenues. Previous research [7] suggests that regulatory approvals serve as a key indicator of business viability for investors in the medical device industry.

Company C (HealthTech Startup): Utilized the LiVE Exchange as an initial funding mechanism before expanding into larger capital markets. The company focused on digital health solutions, a rapidly growing sector, which aligned with investor interests in innovative technology-driven healthcare solutions. This strategy aligns with trends observed in China and India, where HealthTech startups often use government-backed innovation funds before seeking private equity investments.

Recommendations for Overcoming Challenges:

The research findings suggest that Thai life sciences businesses can improve their capital market readiness through the following measures:

Enhancing Financial Literacy: Training programs and financial advisory services should be provided to entrepreneurs to improve their understanding of investment structuring and capital market regulations. Studies on startup ecosystems [18] have shown that financial literacy training significantly improves fundraising success rates.

Streamlining Regulatory Compliance: The government and industry associations should collaborate to simplify compliance processes and provide guidance on international certification requirements. Policy recommendations from Lerner (2009) [16] suggest that nations with streamlined approval processes see higher life sciences IPO success rates.

Promoting Investor Education: Investors need better awareness of the long-term growth potential in the life sciences sector. Investment promotion agencies should conduct targeted outreach programs. Stakeholder engagement frameworks [13] emphasize that better investor communication fosters confidence and reduces risk aversion.

Strengthening Public-Private Partnerships: Increased collaboration between government agencies, private sector stakeholders, and research institutions will help create a more supportive ecosystem for life sciences entrepreneurs. Case studies from Singapore's Economic Development Board show that targeted public-private partnerships enhance competitiveness in the biotech sector.

Expanding the Reach of LiVE Exchange: Awareness campaigns and capacity-building initiatives should be implemented to encourage more life sciences SMEs to utilize this platform for early-stage funding. Research on alternative financing [15] indicates that stronger market signaling mechanisms improve investor participation in new financial platforms.

CONCLUSION AND POLICY RECOMMENDATIONS

Conclusion:

This study has highlighted the key challenges and opportunities faced by life sciences businesses in Thailand as they prepare for capital market entry. The findings indicate that regulatory complexity, high capital requirements, limited financial literacy, and market uncertainty serve as major obstacles to successful market participation. However, various facilitating factors, including government support, business networking, intellectual property protection, and the emergence of alternative funding platforms such as the LiVE Exchange, provide avenues for overcoming these barriers.

The case studies examined in this research demonstrate that businesses adopting strategic collaborations, obtaining early-stage regulatory certifications, and leveraging alternative financing options are more likely to succeed in capital market entry. These findings align with international trends observed in biotechnology, medical technology, and digital health industries, further emphasizing the need for a structured approach to market readiness in Thailand.

To ensure sustainable market participation, it is critical for life sciences entrepreneurs to enhance their financial acumen, develop strong investor relations, and navigate the regulatory landscape effectively. Moreover, a coordinated effort between the government, private sector, and financial institutions is necessary to foster an ecosystem that supports high-growth life sciences enterprises.

Policy Recommendations:

To facilitate the entry of Thai life sciences businesses into the capital market, the following policy recommendations are proposed:

Regulatory Reform and Streamlined Approval Processes:

The government should simplify compliance processes for life sciences businesses, particularly SMEs, by introducing a fast-track approval system for innovative biotech and medical device startups.

Establishing a dedicated regulatory advisory unit to assist entrepreneurs in navigating legal requirements would reduce compliance burdens and shorten time-to-market.

Benchmarking against global best practices, such as the streamlined regulatory processes in the U.S. (FDA Fast Track) and the EU (CE Marking for medical devices), can help Thailand improve its efficiency.

Expansion of Financial Support and Incentives:

Tax incentives and grant programs should be expanded to encourage life sciences businesses to invest in research and development (R&D) and commercialization efforts.

The government should promote co-investment models where public funds match private investments to attract venture capital into the life sciences sector.

Development of industry-specific financial products, such as innovation bonds and biotech venture debt, can provide additional funding avenues.

Investor Education and Market Awareness:

Capital market regulators and financial institutions should launch targeted investor education programs to increase awareness of investment opportunities in the life sciences sector.

The Stock Exchange of Thailand (SET) should enhance its outreach efforts to promote the LiVE Exchange as a viable platform for funding early-stage biotechnology and medical technology firms.

Facilitating investor-startup matchmaking events and roadshows can improve access to funding for high-potential businesses.

Enhancing Business and Financial Literacy:

Establishing training programs and mentorship initiatives focused on financial planning, fundraising strategies, and corporate governance for life sciences entrepreneurs.

Universities and industry associations should integrate entrepreneurship and financial literacy courses into life sciences curricula to better prepare future business leaders.

Collaboration with venture capital firms and accelerators to provide hands-on investment readiness training.

Strengthening Public-Private Partnerships (PPPs):

Increased collaboration between government agencies, financial institutions, and research organizations to create sector-specific incubators and accelerators.

Establishing joint investment funds between the public and private sectors to support early-stage life sciences businesses.

Facilitating cross-border partnerships with leading biotech and medical innovation hubs in countries like Singapore, South Korea, and Germany to enhance market access and investment flows.

Leveraging Digitalization and Alternative Investment Platforms:

Encouraging the integration of blockchain and digital finance solutions to enhance transparency and efficiency in fundraising.

Expanding the use of crowdfunding platforms for biotech and medtech startups to access alternative funding sources.

Promoting regulatory sandboxes that allow fintech solutions to be tested in the investment and funding landscape for life sciences businesses.

Future Research Directions:

While this study has provided significant insights into the challenges and opportunities in preparing Thai life sciences businesses for capital market entry, future research could explore additional dimensions such as:

Comparative studies analyzing the success factors of life sciences IPOs in regional markets such as Singapore, South Korea, and China.

Quantitative analysis of the impact of government policies and financial incentives on the performance of publicly listed life sciences firms.

Longitudinal studies tracking the progress of Thai life sciences SMEs that have successfully entered the capital market.

Investor behavior research to understand the key determinants influencing investment decisions in the biotech and medtech sectors.

By addressing these areas, future research can contribute to a deeper understanding of the capital market landscape for life sciences businesses and support the development of more effective policies and investment strategies.

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