A Work Project, presented as part of the requirements for the Award of a Master's degree in Management from the Nova School of Business and Economics.

BUSINESS OPPORTUNITIES AND RISKS FOR GERMAN PHARMACEUTICAL SMEs IN ASIA – AN EXAMINATION OF THE PHARMACEUTICAL MARKET IN THAILAND

Jana Menn (48438)

Work Project carried out under the supervision of:

Prof. Andrew Harrison

25/01/2023

Acknowledgements

First and foremost, we are grateful for the supervision by Prof. Andrew Harrison who always supported us with his guidance, valuable advice, and humorous manner during our Field Lab. Furthermore, we would like to thank the institution of Nova SBE that enabled us to grow on a professional and personal level.

Abstract

This paper analyzes business opportunities and risks for German pharmaceutical small- and medium-sized enterprises (SMEs) when expanding to Asia by using qualitative research. Through a country selection process, the Field Lab identifies potential target countries. Malaysia, Thailand, and Indonesia are evaluated as the most attractive Asian markets. Based on the analysis of political, economic, and socio-cultural conditions, the healthcare system and pharmaceutical industry, Malaysia identifies as the best country to enter for German pharmaceutical SMEs. Strategic recommendations for Malaysia are formulated through a 5-phase action plan for the short-term, followed by medium- and long-term recommendations for Thailand and Indonesia, respectively.

Keywords

Internationalization Strategy, Market Selection, Market Conditions, Pharmaceutical Industry, German SMEs, Southeast Asia, Malaysia, Thailand, Indonesia

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

TABLE OF CONTENTS[1,2]

[1] All parts that are not specifically marked by a student's name are group parts.

[2] List of Figures and List of Tables can be found in Appendix 1; List of Abbreviations can be found in Appendix 2.

1 Introduction

"Medicines […] are one of the building blocks of a health system. Without them, it is impossible to achieve desirable health outcomes for individual patients and communities." (WHO 2018, 2). Pharmaceutical companies play a crucial role in the global advancement of healthcare services, providing essential treatments, creating jobs, and boosting the global economy. Once more, the COVID-19 pandemic put the pharmaceutical market at the center of public attention. Fueled by an aging population and new product launches, it experienced significant growth in the past decades, resulting in worldwide revenues of $1.4tn USD (Statista 2022a). German pharmaceutical companies contribute significantly to this growth and distinguish Germany as an important location in the industry (Mikulic 2021). Particularly, German small and medium-sized enterprises (SMEs) stand out due to their high specialization of products and services and their innovative strength (BMWK 2019). As growth opportunities in Germany diminish, identifying and entering new markets is of utmost importance for German players. Due to their growth potential, emerging Asian markets offer excellent opportunities for expansion (EFPIA 2022, 4). However, the diversity and heterogeneity of Asian countries underline the relevance of determining which countries are best suited for expansion. Consequently, this paper aims to analyze the business opportunities and risks for German pharmaceutical SMEs in Asia. The objective is to find a region where three relevant and potentially suitable countries can be analyzed in detail to provide German SMEs with theoretical and practical recommendations for market entry. Within the scope of this work, only pharmaceutical manufacturing is considered.

This paper starts with a literature review of the pharmaceutical industry with a particular emphasis on Germany and the corresponding business opportunities in Asia. Subsequently, the selection process to identify the most relevant Asian countries is explained in detail, presenting the three potential expansion markets as output. Hereafter, the research methodology is outlined, followed by an in-depth examination of the three countries considering a political, economic and socio-cultural analysis, healthcare and pharmaceutical industry analysis as well

as qualitative findings from expert interviews. In addition to these country-specific findings, overarching findings are presented. Finally, the paper ends with a discussion, strategic recommendations, a conclusion as well as limitations and a future outlook.

2 Literature Review

The literature review introduces the pharmaceutical industry in general and in Germany and elaborates on the business opportunities in Asia and the Asian pharmaceutical industry.

2.1 Introduction to the Pharmaceutical Industry

In broad terms, the expression "pharmaceuticals" refers to manufactured products generated by a specific industry across which companies compete in various business sectors for the commercially motivated research, development, production, and distribution of medications. The terms "medication", "medicine", "pharmaceutical", and "drug" are used interchangeably. (Taylor 2015, 1). One can mainly differentiate between two types of pharmaceuticals: "prescription pharmaceuticals" that are prescribed by a doctor and are intended to be used by one person as well as "over-the-counter pharmaceuticals" that do not require a doctor's prescription and can be purchased at pharmacies, drug stores as well as online (US FDA 2017).

Pharmaceuticals have historically played a significant role in human development and nowadays have become a fundamental component of the global healthcare system. The pharmaceutical industry is crucial to the development of healthy and productive nations due to its direct connection to human welfare and well-being. Nowadays, the industry is one of the world's largest and fastest expanding (SESRIC 2009, 2).

However, the pharmaceutical industry is a complex system marked by several striking characteristics that set it apart from the common ground of knowledge about the industry. Even though the industry has made a significant contribution to human wellbeing and welfare, it is still regularly identified by the public as one of the least trusted industries. Despite the fact that the largest pharmaceutical firms rightly promote themselves as research-based organizations, many customers remain suspicious (Hester and Harrison 2016, 1–2).

Conventional pharmaceuticals can be classified into two types: firstly, there are original drugs, also known as patented or innovator drugs, which are pharmaceuticals that have undergone extensive research and development (R&D). Manufacturers of original pharmaceuticals are usually granted a 20-year patent; afterwards, other manufacturers are permitted to use those formulae as well. Secondly, generic drugs are imitations of original drugs, often manufactured under a trademark or brand name but lacking patent protection. Generic medications frequently contain active ingredients that are identical to those found in original drugs whose patents have expired. Because generic pharmaceuticals generally not require expensive inputs or costly R&D and clinical studies, the manufacturing costs are typically cheaper than those of original drugs (Tunpaiboon 2019, 1).

The pharmaceutical industry is relatively Intellectual Property (IP) intensive, as measured by trademark and patent intensity. Accounting for around 5% of all global trademark applications registered annually, the pharmaceutical industry is the 4th most IP intense industry according to the Nice product classification. The industry is determined to maintain its IP rights since developing new products is a costly process that is critical to long-term success (OECD and EU IP Office 2020, 25). The high level of investment in R&D, which amounts to $238bn USD in 2022 and is projected to reach $285bn USD in 2028, reflects the cost and relevance of new products (Statista 2022g). Furthermore, the R&D process is lengthy, as developing a new medication or vaccine might take 10 to 15 years (OECD and EU IP Office 2020, 25).

The pharmaceutical industry is characterized by several stakeholders competing to accomplish their interests (Dickov, Mitrovic, and Kuzman 2011, 2). Although the industry is in public view dominated by a small number of very large multinational corporations (MNCs) like Pfizer, Roche, and Novartis (collectively known as “Big Pharma”), these well-known companies only resemble the tip of the iceberg. They account for around 40% of the market financially; nevertheless, they represent just a small portion of the overall industry, as more

than 90% of pharmaceutical companies are generic manufacturers that remain relatively unknown to the public. As a result, most medications supplied are manufactured by these generic companies (Taylor 2015, 8–9).

As the link between the laboratory and the marketplace, the pharmaceutical supply chain is complex. It encompasses all organizational, operational, and value-added operations from new product development through active pharmaceutical ingredient manufacturing and secondary manufacturing, including packaging to distribution via a wholesaler, retail pharmacy or hospital, and ultimately, the patient (see Appendix 3) (PwC 2020, 3).

2.2 Current Market Conditions and Challenges in the German Pharmaceutical Industry

Germany is one of the world's most developed nations. It has the largest economy and consumer market in the European Union (EU), with approximately 83 million residents (World Bank 2021r). After the United States (US), China, and Japan, Germany has the fourth largest economy in the world (KPMG 2022). Moreover, Germany is the third largest exporter and importer worldwide, with export levels of $2tn USD and import levels of $1.8tn USD in 2021 (World Bank 2021k; 2021f). Its most important trading partners are countries within the EU which account for 68.2% of exports and 67.8% of imports (BMWK 2022a). In 2021, the automotive industry was Germany's largest sector, followed by the mechanical engineering, chemical and pharmaceutical, and electrical engineering sector (Rudnicka 2022). In an international comparison, with revenues of $57bn USD in 2020 (see Appendix 4), Germany is the fourth largest pharmaceutical market after the US, China, and Japan (Mikulic 2021). This underlines the relevance of Germany as a pharmaceutical location and the expertise available. Prof. Dr. Hagen Pfundner, Management Board of Roche Pharma AG, echoes this insight by stating: *"Germany is one of the most developed healthcare markets in the world and a strategic gateway to the EU single market for international companies."* (Albrecht and Kemper 2021, 2). Figure 1 displays key statistics of the pharmaceutical industry in Germany. In 2021,

revenues in the German pharmaceutical industry increased by 7.3%, reaching €53.6bn EUR (IQVIA 2022b, 7).

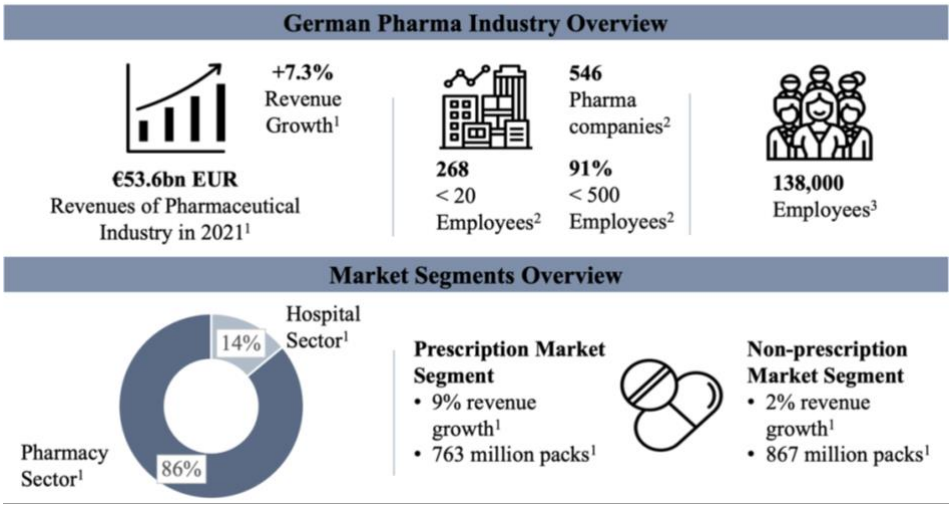


Figure 1: German Pharmaceutical Industry Overview, Source: Own illustration based on (IQVIA 2022b, 7)[1], (BPI 2021, 6–7)[2], (ZEW 2021)[3]

Pharmaceutical companies in Germany benefit from a strong infrastructure and an aging population which increases demand for pharmaceutical products (Vfa 2022). Several factors lead to Germany being a significant pharmaceutical market. First, the geographical proximity to other well-developed industries, such as mechanical engineering, has a beneficial impact. It enables an intensive exchange in the planning of production plants and a faster procurement of replacements in the event of technical problems (Vfa 2022).

Second, the workforce of the pharmaceutical industry in Germany is highly qualified. It is crucial to employ highly skilled professionals to manufacture pharmaceutical products efficiently. Also, digitization increases the demand for specialists in the design of digitized production processes and data analytics. Both conditions are thoroughly addressed when looking at Germany and are made possible by the strong training standards (Vfa 2022).

Third, the German pharmaceutical industry is one of the most productive, research-intensive, and innovative sectors. In recent years, spending on R&D has continuously increased. In 2015, pharmaceutical companies spent around €6bn EUR on R&D, while in 2019, spending amounted to €8.5bn EUR, representing 42% growth in four years (Stifterverband 2021, 5).

Moreover, nearly 20% of pharmaceutical companies' sales were reinvested in product innovation, which are peak figures compared to all other industrial sectors (ZEW 2021).

Role of SMEs

There is no universal definition of SMEs. The European Commission defines SMEs as firms with less than 250 employees or generating up to €500mn EUR in annual turnover (European Commission 2020, 3). In addition, the German Federal Ministry for Economic Affairs and Climate Action classifies SMEs as companies with annual revenues of up to €50mn EUR or less than 500 employees (BMWK 2022b). The SME sector is extremely varied, encompassing large family businesses, craft enterprises, startups, and global market leaders. SMEs are an essential part of the German economy, making up more than 99% of all businesses and accounting for 58.5% of jobs (BMWK 2019). In fact, the outstanding export performance is primarily due to SMEs, which contribute to around 70% of total exports (Simon 2016).

Moreover, Germany has the highest number of small and mid-sized market leaders worldwide, totaling 1,307 (Simon 2016). These companies are called "hidden champions" and represent companies that offer highly specialized products or services and are a driver of innovation and technology. In 2014, almost half of the German SMEs introduced new products or services to the market, in contrast to the EU average of around 30% (BMWK 2019). Furthermore, an essential aspect of German hidden champions is their tendency to keep production and R&D processes within the company rather than transferring their value to other companies. Thus, they prefer exporting or installing subsidiaries rather than subcontracting overseas (Herr and Nettekoven 2018, 21).

Challenges

Although the German pharmaceutical market experiences several challenges, only the one of limited growth opportunities will be addressed to remain within the focus and scope of this paper. The German pharmaceutical market is growing, however, at a different pace than other

markets. Looking at the development from 2016 to 2021, the Chinese and Indian pharmaceutical markets grew by 6.7% and 11.8%, respectively. In contrast, the top five EU markets, France, Germany, Italy, Spain, and the UK, recorded significantly lower average market growth of 5.8% (EFPIA 2022, 4). Furthermore, by 2030, the Asian share of global GDP will reach 52%, three times Europe's share of only 17% (World Economics 2022).

For the reasons mentioned above, German SMEs need to explore new markets in addition to the less attractive European expansion opportunities. Therefore, the focus of this paper is to analyze the business opportunities for German SMEs in different Asian countries.

2.3 Business Opportunities in Asia

In recent decades, Asia has experienced a rapid growth transformation in various economic and societal aspects. Table 1 shows the economic growth of the different Asian regions for 2022 and prospects for 2023 (Asian Development Bank 2022a).

Region	Economic Growth in 2022	Economic Growth in 2023
East Asia	4.7%	4.5%
Southeast Asia	4.9%	5.2%
South Asia	7.0%	7.4%
Central Asia	3.6%	4.0%

Table 1: Economic Growth in Asia, Source: Own illustration based on (Asian Development Bank 2022a)

One powerful driver of economic growth is trade. For decades, Asia's continuous rise of GDP was complemented by a steady implementation of trade openness measures. The liberalization of foreign trade and foreign direct investment (FDI) as well as the reduction of import tariffs lead to a higher share of trade in domestic GDP (Kawai and Wignaraja 2014, 3).

Asia's integration into global value chains sparks welfare gains, increased productivity and stabilized cooperation (UNESCAP 2015, 103). Intraregional trade makes up 52% of the total Asian trade (Tonby et al. 2019, 7). Its rapid rise strengthens the relation among the Asian nations and serves as a protection against global economic and trade policy uncertainty (Asian Development Bank 2017). The establishment of several free trade agreements like the Association of Southeast Asian Nations (ASEAN), Transpacific Partnership (TPP), and

Regional Comprehensive Economic Partnership (RCEP) are effective for Asia's significant cross-border and intraregional trade activities (Kawai and Wignaraja 2014, 23–24).

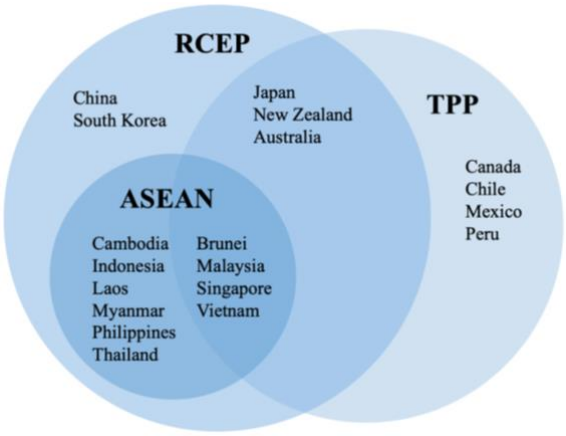


Figure 2: Free Trade Agreements in Asia, Source: Own illustration based on (Carlson et al. 2021, 110)

The rising middle class is one apparent side effect of the rapidly evolving economies in Asian nations, with considerable size and unprecedented growth. Asia's middle class is projected to grow from around 2 billion people in 2020 to an estimated 3.5 billion people by 2030 (Statista 2020). Ogilvy's Velocity 12 ranking identifies the twelve fastest growing middle-class markets which account for half of the world's population and 73% (Ogilvy 2016, 26) of the global middle class. With eight out of twelve countries being Asian (India, China, Pakistan, Indonesia, Bangladesh, Philippines, Vietnam and Myanmar), the significance and pace of the continent's growth is highlighted (Ogilvy 2016).

Hence, millions of Asian inhabitants were lifted out of severe poverty over the last decades. The poverty reduction creates improved living standards, expanding spending power and an overall higher quality of life for all socioeconomic groups (Tonby et al. 2019, 3).

Another prevalent trend that is reshaping Asia is urbanization. The increasing concentration of residents in urban cities, in particular from the middle-class, provides increased access to education and to public health provision. Therefore, rapid urbanization transforms big cities into sources of innovation and wealth generation (Tonby et al. 2019, 3).

The combination of Asia's incomparable market size (Statista 2020), dynamic nature and pace of economic growth creates a plethora of business opportunities for foreign businesses that plan to expand to new markets (Greenbaum 2018, 30–31).

2.4 Business Opportunities in the Asian Pharmaceutical Industry

The COVID-19 pandemic poses the most devastating worldwide challenge to the healthcare sector of this century. The whole continent of Asia has been extremely affected by COVID-19 (Nuruzzaman and Tateno 2021, 6) and experienced severe volatility and instability within the nations' healthcare systems. Various economic operations were disrupted due to the implementation of country-wide lockdowns and border restrictions to prevent further COVID-19 spreading (Asian Development Bank 2022b, ix). With the exception of China, which continues to pursue "zero COVID policies" (Song 2022), the Asian region is currently in a post-pandemic recovery. Its pace in the healthcare sector is remarkable as it is growing back even faster than the economies (OECD and WHO 2020).

As Asia has evolved into a crucial element of the global pharmaceutical ecosystem, multiple drivers speed up the expansion of the pharmaceutical industry (Liu 2022, 10). A key factor for Asia's current significance and future growth potential in the pharmaceutical market is its aging population. The enormous pace of aging in Asian countries can be attributed to declining birth rates and rising life expectancy due to improved living standards and increased access to healthcare (UNESCAP 2017, 4–5). By 2030, more than 60% of the world's population over 65 years is expected to reside in Asia. The number of people aged 65+ in Asia will increase from 365 million in 2017 to more than 520 million in 2027, making it the largest and fastest-growing market globally (Deloitte 2017).

Moreover, changes in lifestyle and dietary habits, such as less physical exercise, rising consumption of high-cholesterol food, alcoholic beverages and tobacco are contributing to an increase in noncommunicable diseases (NCDs) among Asian nations. NCDs include cancer, metabolic, cardiovascular and mental health illnesses (WHO 2020).

Although Asia has some competitive pharmaceutical markets, there are still a lot of unfulfilled healthcare needs in the rising markets of the region. The combination of the growing demand and the partially deficient offerings creates a target-rich setting, allowing businesses to concurrently address crucial medical needs and capitalizing on the enormous investment potential in the pharmaceutical industry (The Economist 2018, 3–8).

3 Country Selection Process

To narrow down the potential expansion markets for German pharmaceutical SMEs in Asia that warrant an in-depth examination, a country selection process with both a quantitative and qualitative selection part is performed.

3.1 Quantitative Selection

To identify a selection of Asian countries that show the highest market potential for German pharmaceutical SMEs based on available data, a quantitative country selection is conducted[3]. It consists of a country ranking and a country clustering process based on all Asian countries. In a first step, only countries that currently find themselves in highly critical political situations (North Korea, Syria, Afghanistan) have been excluded.

In both analyses, 28 variables from 11 different dimensions were considered, each with a specific attributed weight, summing up to 100% (see Figure 3). As shown in Figure 3, the 11 dimensions are organized in (1) Market Size, (2) Market Intensity, (3) Market Growth Rate, (4) Market Receptivity, (5) Standard of Living, (6) Digital Affinity, (7) Ease of Doing Business, (8) Country Risk, (9) Economic Freedom, (10) Cultural Distance and (11) Healthcare Specifics.

[3] The data can be found in the "Country Selection" Excel file as well as the "Output Country Clustering" SPSS file.

Market Receptivity				
Consumer Price Index	Trade (% of GDP)	Net Trade in Goods (BoP, current US$)	Logistics Performance Index (1=low to 5=high)	Foreign Direct Investment, Net Inflows (BoP, current US$)
1%	4%	2%	2%	5%

Economic Freedom	
Economic Freedom Index	Political Freedom Index
2%	2%

Cultural Distance
Cultural Distance to Germany
2%

Ease of Doing Business
Ease of Doing Business (0 = Lowest Performance to 100 = Best Performance)
12%

Market Size		
Population Ages 65 and Above (% of Total Population)	Urban Population (% of Total Population)	Population Density
2%	2%	1%

Digital Affinity
Individuals Using the Internet (% of population)
2%

Market Intensity	
GDP per Capita	Adjusted Net National Income per Capita
2%	1%

Market Growth Rate		
Annual Population Growth	Annual Urban Population Growth	Annual GDP per Capita Growth
9%	9%	9%

Country Risk			
Business Environment Risk*	Political Risk Rating	Country Risk	Competitiveness Rank
2%	2%	2%	2%

Healthcare Specifics			
Domestic General Government Health Expenditure (% of GDP)	Current Health Expenditure per Capita	Current Health Expenditure (% of GDP)	Burden of Disease
6%	8%	7%	2%

Standard of Living	
Life Expectancy	Unemployment Rate (% of Workforce)
1%	3%

Figure 3: Country Selection Dimensions and Variables, Source: Own illustration based on Country Selection Excel file

General as well as industry-specific dimensions have been considered. They cover economic, market related as well as political and cultural data. By taking indicators from 11 different dimensions into consideration, the analysis becomes holistic and objective to determine non-biased results. In particular, the dimensions (3) Market Growth Rate, (7) Ease of Doing Business, and (11) Healthcare Specifics are considered most important. In sum, those three dimensions account for 60% of the weighting. In the following, the variables assigned to those are described. A description and reasoning of all 28 variables can be found in Appendix 5.

Dimensions & Total Weight	According Variables & Weight	Description and Reasoning
Market Growth Rate: 25.5%	▪ Annual Population Growth: 8.5% ▪ Annual Urban Population Growth: 8.5% ▪ Annual GDP per Capita Growth: 8.5%	As it will be interesting for German SMEs to expand to growing and dynamically evolving markets, population as well as GDP per capita growth is considered highly relevant.
Ease of Doing Business: 11.5%	▪ Ease of Doing Business: 11.5%	Since the Ease of Doing Business Index aggregates ten areas of business regulation when starting or operating a local business, it is considered the most important variable.

Healthcare Specific Variables: 23%	▪ Current Health Expenditure per Capita: 8% ▪ Current Health Expenditure as % of GDP: 7% ▪ Domestic General Government Health Expenditure as % of GDP: 6% ▪ Burden of Disease: 2%	Relative health expenditure data gives insights about the healthcare industry development status of a country and thus of high importance for the pharmaceutical industry. Burden of Disease measures the impact of living with illness and injury and dying prematurely and thus is another important healthcare specific variable.

Table 2: Selected Dimension and Variable Description and Reasoning, Sources in chronological order: (World Bank 2022a; 2022c; 2021j; 2019h; 2019d; 2019b; 2019f; Roser, Ritchie, and Spooner 2021)

Country Ranking

A country ranking is performed and results in an index that is an aggregate measure of attractiveness and therefore used at the preliminary market assessment stage. To prevent scale effects and artificial weighting, the raw data of the individual variables within each dimension is standardized into z-scores. The data is transformed to a 1-100 scale to enable easier interpretation (see Appendix 6). In this process, an inverse standardization formula was applied to 10 of the 28 variables, as for those, a higher score signifies a lower potential for German pharmaceutical SMEs (see Appendix 7). The variables being inversed are (1) Foreign Direct Investment, Net Inflows, (2) Unemployment Rate as % of Workforce, (3) Business Environment Risk, (4) Political Risk Rating, (5) Country Risk, (6) Competitiveness Rank, (7) Cultural Distance, (8) Domestic General Government Health Expenditure as % of GDP, (9) Current Health Expenditure per Capita as well as (10) Current Health Expenditure as % of GDP. Whereas for variables (2) to (7) the inversion can be considered evident, particular explanation is needed for the inversion of variables (1), (8), (9), and (10). Although, in general, a high score for those variables signifies a positive status, in the case of investigating market attractiveness for German pharmaceutical SMEs, in the present paper it is considered advantageous if these variables are rather at an infancy or developing stage instead of a highly developed stage.

To reach the final market opportunity score of each country, the scores of the variables are combined with the corresponding weights. In the obtained ranking, it was possible to identify the ten markets with the highest potential for German pharmaceutical SMEs, namely:

1	Malaysia	6	Kazakhstan
2	United Arab Emirates	7	Thailand
3	Bahrain	8	Brunei Darussalam
4	Qatar	9	Indonesia
5	Oman	10	Singapore

Figure 4: Country Ranking – Top 10 Countries

Country Clustering

To further specify the results of the country ranking, a country clustering was performed. The focus of the clustering is to identify groups of countries with similar political, economic, and socio-cultural conditions. It is based on the variables of the three dimensions, that were considered most important in the country ranking: (3) Market Growth Rate, (7) Ease of Doing Business, and (11) Healthcare Specific Variables[4]. Although taking into consideration all the 11 dimensions would enable achieving a more holistic perspective, this would implicate a limitation in terms of specification. A hierarchical country clustering according to the Ward's method and z-score standardization has been performed using SPSS, resulting in a dendrogram (see Appendix 8). The dendrogram illustrates the countries' hierarchical relationship and classifies them into clusters. Several clusters have been formed according to a rescaled distance of three. The clusters are shown in Figure 5 below.

	Cluster 1		Cluster 2		Cluster 3		Cluster 4		Cluster 5		Cluster 6		Cluster 11	
	Phillipines	15	Bangladesh	31	Lebanon	44	China	25	Maldives	41	Germany	40	Singapore	10
	Sri Lanka	34	Lao PDr	30	Myanmar	43	Turkiye	14			Japan	36		
	Kyrgyz Republic	26	Cambodia	33			Georgia	22						
	Mongolia	20	Iraq	39			Russia	29						
	Bhutan	24	Timor Leste	42			Armenia	37						
	Vietnam	18					Iran	38						
	India	11					Jordan	35						
	Indonesia	9					Kuwait	27						
	Bahrain	3					Saudi Arabia	19						
	Oman	5					Cyprus	21						
	Nepal	23					Israel	13						
	Pakistan	28					Korea, Rep.	16						
	Tajikistan	32												
	Uzbekistan	17												
	Brunei Darussalam	8												
	Qatar	4												
	Kazakhstan	6												
	Malaysia	1												
	Azerbaijan	12												
	Thailand	7												
	United Arab Emirates	2												
Average		15		35		44		25		41		38		10

<=10 >10 >20

Figure 5: Country Clusters based on the Dendogram, Source: Own illustration based on the "Output Country Clustering" SPSS file, can be found in the Country Selection Excel file

[4] Only those variables weighted above average (3.6%) have been considered, excluding the variable "Burden of Disease", weighted with 2%.

3.2 Qualitative Selection and Decision Making

As the ranking results are confirmed by the clustering results, it can be said that the ten countries identified indeed offer the highest potential for German pharmaceutical SMEs in Asia. To reduce the number of countries that warrant in-depth investigation as potential target markets to start off in, the attractiveness of the top-ranked countries is evaluated by applying the following qualitative criteria.

1. Market Size

To ensure the market size in the expansion country being large enough, a critical value in terms of population size is set to five million. This criterium excludes Bahrain (1.75 million), Qatar (2.93 million), and Brunei Darussalam (441,534) (World Bank 2021p; 2021t; 2021q).

2. Level of Development

To ensure an expansion to a country that is at a developing rather than developed economic stage and thus has a lot of growth potential, highly developed economies are not considered preferable. The United Arab Emirates, Oman as well as Singapore are classified as "High-Income Economies" (GNI per capita of $13,205 or more), while the remaining countries are classified as "Lower-Middle-Income Economies" or "Upper-Middle-Income Economies" (World Bank 2022d). Thus, the United Arab Emirates, Oman and Singapore are excluded.

3. Potential Ease of Expansion

An internationalization to a country being part of a region is considered advantageous in terms of future expansion opportunities due to potential regulatory agreements (e.g. free trade agreements) expanding the potential market size. Considering Malaysia, Thailand, and Indonesia being part of the ASEAN, RCEP and APEC agreements and summing up to a total market size of 379,087 million (population-wise), those three countries offer high expansion potential (World Bank 2021o; Holloway 2005a, 3–14). Thus, starting off the internationalization in one of those countries could be a door-opener to the further Southeast Asian (SEA) region. Especially when comparing that value to the market size of Kazakhstan

being 19 million, it becomes evident that the growth potential in this market is more limited (World Bank 2021s).

Due to the strategic advantages in terms of market size, level of development as well as future growth and expansion potential, it was decided to further analyze Malaysia, Thailand and Indonesia[5] in-depth. Figure 6 summarizes and visualizes the country selection process.

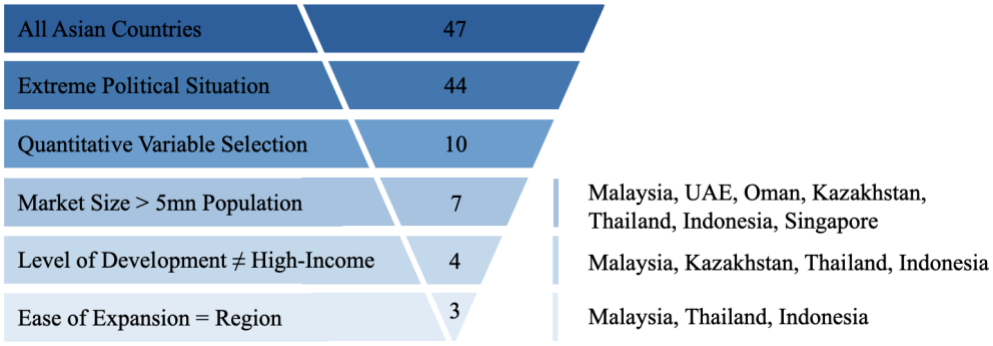


Figure 6: Country Selection Funnel, Source: Own illustration based on filters used for country selection

4 Research Methodology

In the following chapter, the research process will be elaborated on.

Research Approach

As part of this paper, both primary and secondary data has been gathered to ensure accurate results. Data was collected through three approaches: (1) Literature Review, (2) Qualitative Expert Interview, and (3) Quantitative Survey. This mixed methods approach was adopted to provide various levels of detail and to examine the research topic from different angles due to the complexity of the research question (Ochieng 2009). First, secondary data was researched from multiple sources such as company reports, academic journals, books, online databases, and websites. Second, semi-structured qualitative expert interviews were conducted with different pharmaceutical industry stakeholders in Germany and Asia to gain insights into business opportunities and risks from an executive perspective. Third, a quantitative survey was

5 Henceforth, the abbreviation MIT is used when referring to the three countries Malaysia, Thailand and Indonesia at the same time.

performed to complement the analysis and get insights into the perception of the pharmaceutical industry in MIT, including consumers' perceptions. The surveys' main goal was to analyze the trustworthiness of foreign vs. local pharmaceutical companies in MIT (see questionnaire in Appendix 9). It was distributed via LinkedIn, Facebook groups, and experts, achieving 2029 impressions as of 24.11.2022. However, with 23 answers in total, the response rate of 1.13% is too low for further analysis due to a possible sampling bias. Therefore, only qualitative research is utilized.

Recruitment of Participants and Interview Process

For the expert interviews, the semi-structured method was chosen for its flexibility, open-ended nature, and scope for creativity. This interview type includes an interview guide with a list of questions or themes that do not have to be followed strictly. In contrast, the goal is to investigate the research area by gathering comparable information from every participant (Holloway 2005b, 3–14). Participants were recruited and contacted through online research via LinkedIn and E-Mail or through personal contacts. A total of 128 stakeholders working in the healthcare and pharmaceutical business were contacted. The focus was both on stakeholders from German pharmaceutical businesses (companies of different sizes) to ask about their expansion experiences in SEA and on stakeholders from pharmaceutical businesses in MIT. Further, consultants with extensive knowledge of the pharmaceutical business in Germany and SEA have been contacted to get a more comprehensive picture of the pharmaceutical industry and the business opportunities in this region. The aim was to recruit at least three experts per country to gain valuable and detailed insights into the industry in each country, including the opportunities and risks for German SMEs. It was important that the stakeholders have at least five years of experience to ensure sufficient industry knowledge. Therefore, mainly senior executives with extensive knowledge of the pharmaceutical industry have been interviewed.

Further information and reasoning regarding the experts are provided in Appendix 10, including a link to all interview transcripts.

A total of 18 stakeholders responded to the requests. Out of this number, three did not reply to schedule the interview, leaving 15 stakeholders. The interviews were conducted via video call on the platforms Microsoft Teams and Zoom between October 15th and November 7th, 2022. Interviews were held in English and lasted between 30 to 40 minutes. Notes were taken, supplemented by voice recording, which enabled the transcription of the interviews with the online transcription software Otter.ai.

Data Analysis Approach

Before conducting the interviews, a discussion guide was created. This guide includes two sub-guides, one for stakeholders working in Germany and one for stakeholders working in the SEA region (see Appendix 11). After transcribing all interviews, "coding" words, patterns, and similar responses have been collected to identify common topics and ideas. As a result, the following overarching themes have been established: (1) Overview of the Pharmaceutical Industry in MIT, (2) Market Entry Conditions, (3) Opportunities and Risks. Findings for each country and overarching findings regarding German pharmaceutical SMEs and universal MIT insights are presented in the following.

5 Analysis of the Pharmaceutical Industry in Thailand

The following chapter analyzes the pharmaceutical industry of Thailand and consists of insights from literature as well as qualitative research.

5.1 J. Menn – Examination of the Pharmaceutical Industry in Thailand

The following chapter examines the pharmaceutical industry in Thailand based on a political, economic, socio-cultural, and market entry conditions analysis.

5.1.1 Political, Economic and Socio-Cultural Conditions

Thailand is a country in the centre of SEA, bordering Myanmar, Laos, Cambodia and Malaysia. It is formerly known as Siam and officially referred to as the Kingdom of Thailand. The capital city is Bangkok (Britannica 2022), and the country has a total size of around 510,000 square kilometres (World Bank 2020a).

Thailand is categorized as a constitutional monarchy with the king as the head of state (Witt 2021, 2). The current political leaders are King Maha Vajiralongkorn, acting since 2016, and the head of government, prime minister Prawit Wongsuwan who was elected in 2022 (Olarn and Magramo 2022). As a military coup in 2014 resulted in a military-led government, political challenges persist and involve protests advocating for a reform of monarchy (Witt 2021, 2).

Thailand's political risk is rated as medium, with 3 out of 7 points (OECD 2022). The country is facing severe challenges in the form of corruption. The Corruption Perception Index classifies the country as the 110th out of 180 countries (Transparency International 2021).

During the last decades, Thailand has undergone a transformational change, moving from a low-income country to an upper-middle income economy. From 1960 to 1996, Thailand's annual economic growth rate stood at 7.5%. The Asian Financial Crisis in 1997 hit hard but the country accomplished to recover and grow its economy by 5% annually from 1999 to 2005. In 2011, the World Bank officially re-categorized Thailand as an upper-middle income nation (World Bank 2011). The country's macroeconomic activities led to a remarkably low unemployment rate of 1.4% in 2021 (World Bank 2022b). With a GDP of $505.98bn USD in 2021 (World Bank 2021g), Thailand has the second largest economy in SEA (Switzerland

Global Enterprise 2021, 7). The GDP per capita amounts to $7,233.4 USD, as of 2021 (World Bank 2021i). The leading sectors agriculture, industry and services are significant contributors to the GDP, with 9%, 35% and 57%, respectively (World Bank 2021a; 2021l; 2021v). Beyond that, the contribution of exports to the country's GDP immensely increased from 16% in 1960 to 58% in 2021, emphasizing Thailand's growing dependence on exports (World Bank 2021e). Currently, the Thai government seeks to reshape the economy by fostering the integration of technological advancements as part of the sector-specific strategy Thailand 4.0. The ultimate goal of the so-called "fourth industrial revolution" is to escape the "middle-income trap" and turn Thailand into a service-based economy (Thailand Investment Review 2017, 3). Moreover, the country is a founding member of several agreements promoting free trade and economic cooperation, notably ASEAN, APEC and RCEP (Witt 2021, 3).

The country has a population size of approx. 70 million people with an annual population growth of 0.2% (World Bank 2021u; 2021n) and is in midst of transforming into a more urbanized nation. As of 2021, 52% of the inhabitants resided in urban areas, while 20 years earlier, in 2001, only 33% of the population lived in cities (World Bank 2021w). Thailand's society is shaped by a collectivist and hierarchical character (Witt 2021, 3) and unites circa 70 ethnicities (Dreyfuss 2018, 34). The predominant religion is Buddhism, practised by 95% of the population (Witt 2021, 7).

5.1.2 Healthcare Sector Overview

The healthcare sector is one of the fastest-growing sectors in Thailand. The total expenditure on healthcare amounts to $18.4bn USD (GlobalData 2022c, 26) and makes up 3.79% of the country's GDP (World Bank 2019c). The health expenditure per capita almost doubled from $152 USD in 2009 to $296 USD in 2019 (World Bank 2019e). The out-of-pocket spendings as the share of total health expenditure drastically decreased from 34.19% in 2000 to 8.67% in 2019 (World Bank 2019k). Appendix 12 displays further healthcare-related numbers. In Figure 10, the evolution of health expenditure from 2009 to 2019 is visualized.

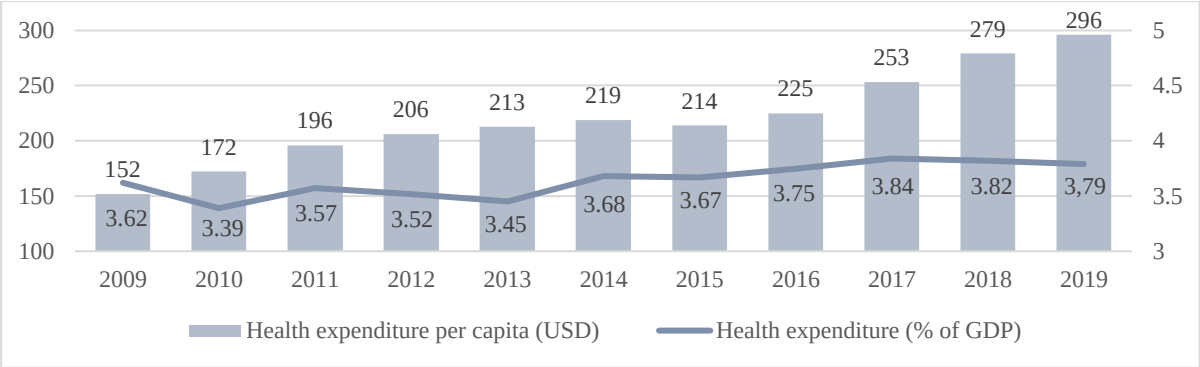


Figure 7: Health Expenditure in Thailand" Source: Own illustration based on (World Bank 2019e; 2019c)

Thai residents have a life expectancy of 77 years, with an average of 74 years for male and 81 years for female individuals (World Bank 2020d; 2020c; 2020b). With its rapid pace of aging, Thailand is, after Singapore, the second-fastest aging nation among the ASEAN countries (Glinskaya, Walker, and Wanniarachchi 2021, 7). In 2021, 14% of Thai residents were aged over 65 years, twice the number than 20 years earlier (World Bank 2021m). NCDs are a growing public health concern, accounting for 76.5% of all deaths in Thailand (World Bank 2019a). Nevertheless, various indicators highlight healthcare improvements throughout the last years. The burden of disease decreased from 35.6 years in 1990 to 24.2 years in 2019 (Roser, Ritchie, and Spooner 2021). From 2009 to 2019, the number of nurses and midwifes per 1,000 people increased from 1.6 to 3.2 and the number of physicians per 1,000 people tripled from 0.3 to 0.9 (World Bank 2019j; 2019l).

In 2002, Thailand successfully implemented national public healthcare, composed of three different insurance schemes: Civil Servant Medical Benefit Scheme (CSMBS), Social Security Scheme (SSS) and Universal Coverage Scheme (UCS). CSMBS and SSS are tied to employment in the public and private formal sector, and UCS applies to all Thai residents that are not covered by the former (McManus 2012, 49). Table 4 gives further details on all three insurance schemes.

	Civil Servant Medical Benefit Scheme (CSMBS)	Social Security Scheme (SSS)	Universal Coverage Scheme (UCS)
Population groups coverage	Employees in public sector + dependents	Employees in formal private sector	All other citizens
Copayment	Yes (only for inpatient at private hospitals)	Yes (only for maternity and emergency services)	No (In 2007, copayments of 30 THB ($1 USD) for hospital visits were abolished (World Bank 2012).)
Source of financing	General taxes	Employer and employee	General taxes
Expenditure per capita per year	$400 USD	$106 USD	$79 USD
Population covered in 2019	4.5 million people	12.1 million people	51.6 million people

Table 3: Public Healthcare Insurance Schemes in Thailand, Sources: Own illustration based on (Dreyfuss 2018, 42–47; McManus 2012, 49; Switzerland Global Enterprise 2021, 10)

Thailand is known for having some of the best healthcare facilities in SEA, amounting to a total of 1,356 hospitals, as of 2020 (Statista 2022c). In contrast to private hospitals, patients of public hospitals can be affected by outdated appliances and long waiting times due to overcrowding (Yousapronpaiboon and Johnson 2013, 183). The private hospital "Bumrungrad International Hospital" in Bangkok is one of the largest in the region and offers various specialty centers. It is referred to as a one-stop convenience and treats over 1.1 million people each year, with international patients accounting for almost half of them (Bumrungrad International Hospital, n.d.). Medical tourism is an integral part of Thailand's healthcare sector, with a market value of $9.1mn USD in 2019 and an estimated market value of $24.4mn USD in 2027 (Statista 2022h). High-quality services due to qualified experts and outstanding amenities paired with comparably low costs attract numerous medical tourists each year. The country is well-positioned in in-vitro fertilization, plastic surgeries, cancer therapies and dental procedures. The government provides special visas for the purpose of health tourism (Thailand BOI 2020, 7).

The geographical distribution of healthcare infrastructure and health workers is uneven between urban and rural regions in Thailand. While metropolitan areas are oftentimes sufficiently staffed with medical personnel, rural areas have to fight shortages of workers (Switzerland Global Enterprise 2021, 5). To combat this imbalance, more than 600,000 village health volunteers are deployed for medical services in rural areas (GlobalData 2022c, 12).

As part of Thailand 4.0, the Ministry of Public Health (MOPH) strives to position Thailand as a top supplier of pharmaceuticals and medical equipment as well as a top-tier destination for healthcare services. The 15-year strategic plan to transform Thailand into the leading medical hub of SEA was launched in 2016 (PwC 2017, 7). The detailed timeline can be found in Appendix 13.

5.1.3 Analysis of the Pharmaceutical Industry

The following chapter provides an in-depth analysis of the pharmaceutical industry in Thailand.

5.1.3.1 Status Quo

Thailand has the third-largest pharmaceutical industry in SEA, after Indonesia and Vietnam, with an estimated industry value of approx. $6.4bn USD in 2021 (Statista 2022f). Among the SEA nations, Thailand's per capita expenditure on pharmaceutical products is by far the highest, with approx. $600 USD. To compare, Malaysia is with approx. $200 USD per capita spending the next following country (Statista 2022e). The market share of pharmaceutical products is composed of 49% generic drugs, 32% patented drugs and 10% over-the-counter (OTC) drugs (Statista 2022b). Patented medications are primarily used to treat NCDs and hence, continuously rise in consumption. The distribution of pharmaceuticals to consumers is carried out through two channels. Firstly, patients get prescribed both generic and original drugs from doctors in hospitals which accounts for 80% of the domestic distribution, with 60% given out in public hospitals and 20% in private ones. Secondly, pharmacies distribute OTC drugs for customers with marginal health complaints, representing 20% of the domestic distribution (Tunpaiboon 2019, 3).

5.1.3.2 Market Entry Conditions

Competitive Landscape

As of 2020, the pharmaceutical market in Thailand comprises 395 pharmaceutical companies (Statista 2022d). The competitive landscape is dominated by two groups of manufacturers, namely government manufacturers and private manufacturers. The Government Pharmaceutical Organization (GPO) belongs to the former group and is specialized in

producing generic drugs to offer alternatives to original medicine. The group of private producers consists of two sub-categories, local and multinational enterprises. Local companies are usually focused on manufacturing generic versions with low production costs. Some of the major players are Siam Pharmaceuticals, Thai Nakorn Patana and Biopharma Chemicals. The production and distribution of patented, innovative drugs is primarily executed by MNCs like Pfizer, Novartis and Roche. Another common practice of international players is to produce original medicines in their home country and import them for distribution throughout Thailand (Tunpaiboon 2019, 2).

Thailand's import sources for pharmaceuticals are Germany (14%), India (9%), the US (8%), France (8%) and Japan (7%) (Tunpaiboon 2019, 3–4). Imported drugs are usually of high quality and not easily producible in Thailand like antibiotics or cholesterol-lowering drugs (Pharmexcil 2020, 192). However, one prevalent issue is the import of cheap generic duplicates from India, the second-largest importer to Thailand. Lower costs of local manufacture in India result in low selling prices (Tunpaiboon 2019, 3). The government intends to reduce its reliance on imported drugs by fostering innovation and setting superior standards for the domestic pharmaceutical market (IQVIA 2022a, 178–79). The main export destinations for pharmaceuticals from Thailand are proximate countries, namely Vietnam (20%), Myanmar (20%), Cambodia (13%), Japan (7%) and Philippines (5%) (Tunpaiboon 2019, 3–4).

The raw materials used for pharmaceutical manufacturing are obtained from the chemical industry, provided by numerous suppliers in Thailand (Dreyfuss 2018, 54). In terms of volume and demand, the generics market is on a steady growth journey. One prominent contributor is the UCS as it increased the accessibility to drugs for the majority of the population and enables dispensing of generic versions for free. Furthermore, the government introduced several policies to promote the utilization and prescription of generics to respond to growing cost-effectiveness pressures (GlobalData 2022c, 56).

Regulation Process

The regulatory environment for pharmaceuticals is controlled by the Thai Food and Drug Administration (FDA), under surveillance of the MOPH. The FDA is in charge of issuing market authorizations. Companies have to pass through several approval stages, namely acquiring a license for drug manufacturing or drug importation, followed by obtaining authorization for marketing activities for the medical product. Both drug licenses have to be renewed yearly, while the marketing authorization license is effectual as long as the other licenses are valid (Adcock, Homhuan, and Chaithiraphant 2019, 8–9). In 2020, the government issued roughly 23,320 pharmaceutical licenses for the sale, production, import and purchase of medical drugs (Statista 2021). Table 5 shows the fees for different licenses.

Type of Pharmaceutical License	Fee per copy
(1) Modern Drug Manufacturing License	50,000 THB ($1,400 USD)
(2) Modern Drug Selling License (Retail)	5,000 THB ($140 USD)
(3) Modern Drug Selling License (Wholesale)	10,000 THB ($280 USD)
(4) Modern Drug Import License	100,000 THB ($2,800 USD)
(5) Modern Drug Registration License	25,000 THB ($700 USD)

Table 4: Registration Fees for Pharmaceuticals Licenses in Thailand, Source: Own illustration based on (Adcock, Homhuan, and Chaithiraphant 2019, 9)

Pricing & Reimbursement

The government concentrates on cost containment strategies by curbing drug costs (GlobalData 2022c, 41). The pricing of pharmaceutical products is only controlled for public healthcare provisions. The National Essential Drug List Subcommittee in Thailand lists all medications used in public hospitals in the National List of Essential Drugs (NLED). The products' prices are controlled by a median price mechanism. While there is no official price regulation for private hospitals and pharmacies, the medication price printed on the packaging by the pharmaceutical manufacturers can be the maximum price charged (Adcock, Homhuan, and Chaithiraphant 2019, 11). Individuals covered by a public insurance scheme get their expenses reimbursed for medications of the NLED. For products outside the NLED a fee has to be paid.

Residents not covered by a public insurance have to pay for the expenses out of pocket. The option of private insurances can be used for cost complementation (WHO 2018, 33).

Intellectual Property

The IP environment in Thailand faces challenges regarding weak and complicated IP enforcement and counterfeiting of patents (GlobalData 2022c, 29). According to the 2022 International IP Index, Thailand is positioned on the lower side with a score of 35.78% out of 100% (Pugatch and Torstensson 2022, 6). A patent can be filed to protect new pharmaceutical medications which is valid for a duration of 20 years. Nevertheless, international producers that are focused on innovative and novel medicine consider the patent law as insufficient. The possibility to circumvent a patent in form of compulsory licensing exists in Thailand and was extensively utilized in the past (GlobalData 2022c, 31). In 2006, the Thai government introduced compulsory licensing for the first time for an anti-HIV drug called Efavirenz from Merck. The license enabled the government of Thailand to import the generic and non-patented version of Efavirenz from India as well as to manufacture and sell it at a lower price than the original drug of Merck (Steinbrook 2007, 544). Moreover, discrepancies between producers of original products and generic products stem from the discussion around IP rights. The government's aim to provide more transparency within the pharmaceutical industry is realized by closer cooperation with stakeholders (GlobalData 2022c, 31).

Ownership Equity

In Thailand, the standard ownership rights for foreigners for a limited company are 49% of the shares. The other 51% are assigned to a person with Thai citizenship. Nevertheless, there are legal ways to achieve 100% ownership equity as an international business. Firstly, as it is of great interest to further strengthen national competitiveness, the Board of Investment (BOI) encourages foreign investment and incoming international business activities for several sectors, including the pharmaceutical industry. The BOI provides the so-called "BOI

Promotion" to foreign companies, granting benefits such as tax incentives, loosened regulations in terms of hiring foreign employees without the need of four Thai workers per foreign one, permission to own land as well as 100% foreign ownership rights. Secondly, international firms can apply for a Foreign Business License, serving as a work permit. Innovator manufacturers are not as prone to rejections as firms meeting the standard norm (Acclime 2021).

Ease of Doing Business

Thailand is currently ranked 21st of 190 countries in terms of ease of doing business with an overall score of 80 out of 100 (World Bank 2019g; 2019i) and lies marginally behind Malaysia. Figure 11 depicts the ten categories that the ease of doing business index comprises as well as Thailand's respective ranks. It should be noted that a low rank signifies a positive position.

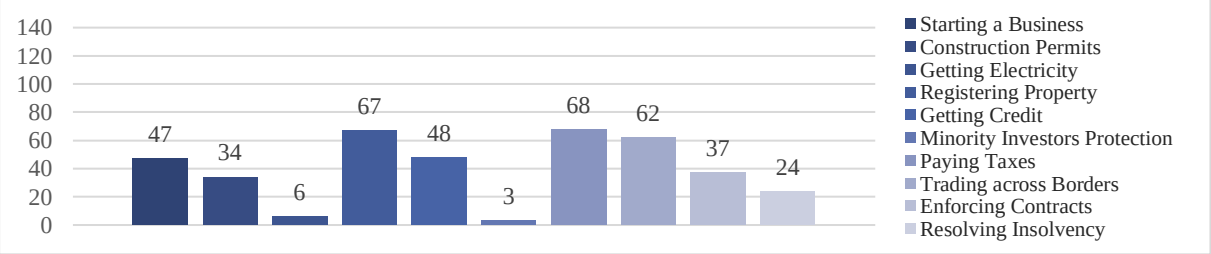


Figure 8: "Ease of Doing Business" Categories for Thailand in 2021, Source: Own illustration based on (World Bank 2021d)

Tax Liability

Table 6 depicts the current tax rates for corporate income, branch profit as well as the VAT. The BOI offers incentives for foreign investors that include e.g. a 50% corporate income tax reduction and import duty reductions (Thailand BOI, n.d., 20).

Category	Tax Rate
Corporate Income Tax Rate:	
Net Profit > 3mn THB ($83,000 USD)	20%
Net Profit 300,000 – 3 mn THB ($8,300 – $83,000 USD)	15%
Net Profit < 300,000 THB ($8,300 USD)	0%
Branch Profit Tax Rate	10%
Value Added Tax (Standard)	10%
Value Added Tax (Reduced until September 2023)	7%

Table 5: Tax Liabilities in Thailand, Source: Own illustration based on (PwC 2022c; 2022a; 2022b)

5.1.4 Qualitative Research Findings

In the following, the qualitative research findings on the pharmaceutical industry in Thailand are outlined.

5.1.4.1 Past Development and Current Situation

Various experts gave their impression on the development that Thailand has undergone and the current situation. Thailand did not only experience rapid GDP growth throughout the last years, (E2, E5, E14) but also strong growth within the medical industry (E14). E14 states that Thailand's healthcare model moves towards the Western system and confirms that, by now, a high proportion of the Thai population has access to public medical care.

The impact of COVID-19 was recognizable in several areas within the pharmaceutical industry in Thailand. Firstly, the sales volume of medications for chronic diseases heavily increased due to the uncertainty of supply in the near future. Furthermore, the way of selling pharmaceutical products changed, from face-to-face interactions between salespeople and doctors, to digital channels. Moreover, COVID-19 strongly affected the medical tourism industry. As international travelers were not able to cross the border to enter Thailand, a significant part of revenue, estimated to 30%, was not generated (E15). Hence, the largest hospital Bumrungrad suffered from a significant reduction of international patients (E8).

Nevertheless, E6 underlines that Thailand is part of the wave of the next high-potential countries where international pharmaceutical manufacturers can leverage the "huge untapped potential". In addition, Thailand is already opening up to foreign companies in the last years (E6). At the present time, pharmaceutical companies begin to change their strategy and work towards becoming the leader in a few, selected therapeutic areas. Rather than holding a widespread portfolio, many firms adapt a more narrow and detailed approach (E15). Nowadays, Thailand is a member of the PICS. Initially, Thailand was protective of its industry and local products and hesitated to enter the cooperation (E7).

5.1.4.2 Strengths and Challenges

E5 perceives that the healthcare provision in Thailand is superior to other SEA countries and E14 highlights that Thailand offers good manufacturing, many technologies and high standards in general. On the one hand, Thailand is described as a transparent market (E2, E8) with structure, stability, and less corruption (E5). On the other hand, a few experts point out that there is prevalent corruption because of the huge market size (E8, E14). E14 underlines that Thailand is affected by security issues as it has disputed territories, especially outside of Bangkok and other large cities.

The Thai government controls the pricing of pharmaceutical products and therefore, imposes cost challenges (E3, E8, E12, E15). The "cheap drugs policy" (E3) specifically has a huge impact on multinational, innovative firms, as the government favors low-price generic medicines (E15). Furthermore, Thailand faces an influx of generics from surrounding countries, especially from India, China, Pakistan, and Bangladesh (E8, 14, E15). Another prevalent challenge is the financing of the UCS (E3, E15). While the execution of the public health insurances per se works well (E15), the per capita budget that can be spent on treatment costs, including doctor's consultation and hospitalization cost (E12) is very low (E3, E15). E15 underlines that the question of how the per capita amount can be increased over time is challenging for the government.

According to E3, companies operating in Thailand oftentimes experience high turnover rates as many employees terminate their employment contract after 2 years. This poses a critical challenge as pharmaceutical firms either need to implement a retention strategy or be able to quickly recruit equally competent people. Beyond that, E10 believes that the language barrier regarding English could be a demanding obstacle in Thailand.

5.1.4.3 Market Entry Conditions

In Thailand, the pharmaceutical market consists of both local and international firms (E2, E5, E7), with many American and French companies (E2). Various experts are of the opinion that the **competitive landscape** of the Thai pharmaceutical industry is highly competitive (E8, E14, E15). Major reasons are the strong local competencies for the generics market (E3, E5, E7, E14, E15) as well as the intense price competition and cost challenges (E3, E8, E12, E15). In addition to that, E15 highlights that local firms are not engaged in R&D which can be attributed to the focus on generic medications.

The **regulatory environment** in Thailand is described as rather permissive and swift with clear regulations (E2, E8, E14). However, the product registration process takes some time (E5, E15) and is "rather painful" (E15). E5 specifies Thailand as a "semi-reimburse market" and in this aspect, E6 adds that the reimbursement process is not easy. The pharmaceutical manufacturer cannot register its products and apply for reimbursement on its own. In truth, a local physician needs to use the product, advocate it, and can then recommend the manufacturer for reimbursement (E6).

Several experts put emphasis on building a strong network of reliable **local contacts**, partners and distributors when expanding to Thailand (E2, E6, E8, E14, E15) instead of building an own supply chain (E14). E15 explains that the areas of responsibility of the distribution company includes warehouse management, product delivery to the hospitals as well as the invoice process while the manufacturer does the marketing activities. Furthermore, E15 underlines that the main relationship is between the distributor and the hospital, not between the manufacturer and the hospital. Hereby, the already established coverage and channels between the distributor and the hospitals are beneficial for new market players. Furthermore, E15 recommends cooperating with a distributor particularly in the first years after the market entry. E8 indicates the high margins of the distributors which are therefore worth a careful

selection. The distribution companies Zuellig Pharma and DKSH are mentioned as the most popular ones in Thailand (E3, E5, E6, E8, E14, E15).

Overall, E15 gives the advice to develop a clear go-to-market strategy with a large amount of investment when entering the Thai pharmaceutical market.

5.1.4.4 Opportunities and Risks for German SMEs

"Differentiation and innovation scientifically is important" (E8). Therefore, the most prominent opportunity for German pharmaceutical SMEs lies in bringing original medications onto the Thai market (E3, E8, E14). E8 emphasizes that companies should not "just copy and paste because that they can make [t]here too".

E2 perceives the Thai pharmaceutical market to be the most similar to the German market among SEA countries which facilitates the expansion process in various aspects. E7 is convinced that location-wise, Thailand offers plenty of opportunities as it has easy access into Indochina. Thailand could become a clinical trial base due to the biological similarities of the people within that geographical area. Moreover, E15 underlines that especially German SMEs are often characterized by a fast-decision-making process and a long-term vision which helps to ensure long-term competitiveness in Thailand.

E6 indicates that the risk of international price referencing (IPR) particularly affects pharmaceutical firms in Thailand. IPR is a price control mechanism where the government considers product costs in other, especially low-price markets to determine prices for the own market. In conjunction with the pressure of cost containment, the Thai government is likely to undercut medication prices (E3, E6, E15). Furthermore, developing the local capabilities to run a commercial organization that is fully compliant with the Thai law and does not cause issues with the parent organization poses another risk (E3, E6). Beyond that, E12 highlights that the behavior patterns and communication manners of the Thai population are, to a certain extent, different than Western habits. Therefore, awareness and understanding of cultural politeness

are essential to not run the risk of misunderstandings (E12). Lastly, another risk that affects German SMEs expanding to Thailand is the high initial investment needed (E5).

Nevertheless, various experts agree that Thailand is worth considering for German pharmaceutical SMEs planning to enter SEA (E2, E3, E6, E8, E14).

To conclude, on the one hand, pharmaceutical companies can reap the benefits of an ideal consumer market size with growth opportunities for patented pharmaceuticals in Thailand. On the other hand, the weak IP environment, lengthy registration process and cost pressures from the government might present obstacles to an easy and smooth market expansion process for German pharmaceutical SMEs. Figure 12 summarizes the findings which result from the in-depth analysis. Furthermore, a Porter's Five Forces analysis for Thailand can be found in Appendix 14.

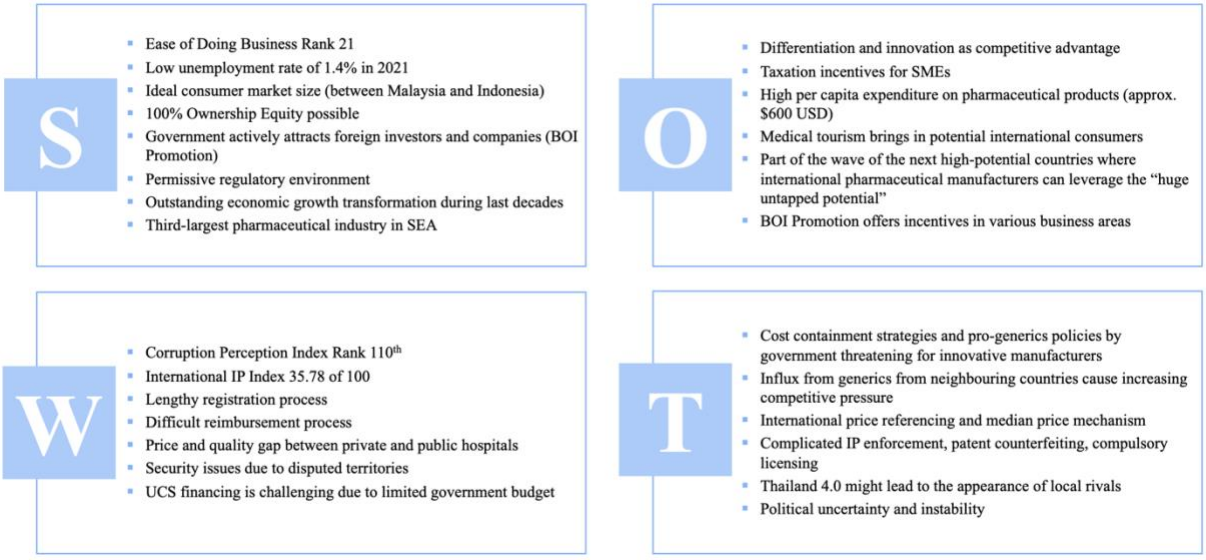


Figure 9: SWOT Analysis for Thailand, Source: Own illustration based on literature review and findings of expert interviews

6 Overarching Qualitative Research Findings regarding an Internationalization to MIT

In the following, overarching findings not specifically attributed to an expansion to one concrete country but to MIT obtained from the expert interviews are elaborated on.

6.1 German Expertise

Experts have differing views on whether Germany has a reputation for being an exceptionally reliable partner. E5 argues that Germany can benefit from its reputation of being well organized and "structured in the way to approach things" (E5). In contrast, E2 indicates that this positive image "diluted in the past few years rapidly" and that Germany "loses its great position as being a reliable, high-quality partner" (E2). Besides, E5 highlights that "people don't care where a drug is from if it is from Germany or not… it's more about the branded name and about the marketing advocacy" and that the efficacy of the drug is important. A major risk for German pharmaceutical companies is risk aversion regarding investments in "future technologies" and in R&D for "novel technologies". As E1 states, *"sometimes we are missing out on big opportunities […]"*.

6.2 Market Entry Conditions

Regulatory environment

E2 and E5 point out that the markets in MIT are getting increasingly demanding in terms of trials and studies for pharmaceutical manufacturers. This involves conducting additional local clinical trials instead of just submitting past international clinical studies that were carried out in another country as well as providing profound stability data (E2).

Entry Mode/Local Contacts

Common entry modes for German SMEs are forming a joint venture with a local company (E1), licensing the medical products out to a local player (E6) as well as the distributor model (E3). According to E2, building a sustainable and long-term business network with local partners enables one to absorb expertise about the local markets and cultures (E2, E4, E6), benefit from their network connections, and delegate responsibilities regarding regulations, pricing, and

market access (E1). E2 recommends visiting international congresses to meet potential business partners from MIT. When selecting local business partners, several aspects should be considered. Firstly, checking the firms' compliance with local laws and alignment with German laws prevents regulatory issues in the future (E6). Moreover, the company focus is integral to ensuring alignment and compatibility. Some distribution firms emphasize ethics, some are specialized in OTC, some in B2B, and others in B2C (E2). E2 states that a criterion for exclusion could be when the distributor already works for a direct competitor.

Advice

It is of utmost importance to acquire a proper understanding of the markets in MIT (E1, E4), as German pharmaceutical SMEs cannot just implement their native strategy (E1). An evaluation of the respective culture and cultural differences is essential in choosing the right market (E2).

6.3 Opportunities and Risks for German SMEs

Numerous experts agree that entering MIT, so-called *"growth markets"* within a *"fantastic growth"* phase, offers a plethora of opportunities for future business growth due to the steep economic growth journey throughout the last years (E1, E2, E3, E4, E5, E14). According to E3 and E14, the most significant opportunity lies in the limited treatment and healthcare access. German companies that can afford investments in a long-term horizon will experience this growth potential over time (E1). E2 further points out that the opportunities are exceptionally high if German companies bring in a sophisticated, unique product or technology. Although the demand for innovative drugs is high (E2), German SMEs would have to make sure that the innovative drugs are accepted into the public sector and have a product market fit since any pharmaceutical with a premium pricing target for a rare patient type carries a high risk (E3). In terms of product quality, it might be challenging to consider and evaluate foreign quality standards in advance (E4), especially if there is no compliance with the standards to which EU pharmaceutical companies adhere. Not only can this damage the brand reputation but also the lives of patients (E6). According to E4, the markets in MIT are not yet full of European or

German companies. Besides that, several experts mention various dependencies that pose uncertainties for German SMEs expanding to SEA. On the one hand, geopolitical tensions with conflicts below the surface get mentioned (E2, E3). Moreover, E1 points out a dependency on general economic development, which influences the local ability to pay for innovative drugs and legal development, highlighting the role of IP challenges. E2 stresses that the governments in MIT show a *"strong tendency of protection of domestic markets and domestic players"*. It could be challenging to keep up with the local manufacturers if they are being pushed and privileged. In addition, E2 confirms that the local governments are focused on saving costs and, therefore, contain drug prices that might threaten the patented medicines market. Further overarching findings of the expert interviews can be found in Appendix 15.

7 Discussion

This paper aims to shed light on the business opportunities and risks for German pharmaceutical SMEs in Asia. The country selection process placed the focus on SEA and identified three countries (MIT) as potential expansion markets. After analyzing each country individually, this paper now compares the countries in question in the following dimensions: (1) Political, Economic, and Socio-Cultural Conditions, (2) Healthcare System, (3) Pharmaceutical Industry, including the Status Quo and Market Entry Conditions. On this basis, the ideal country for expansion into SEA for German SMEs is identified.

The first dimension refers to the political, economic, and socio-cultural conditions. Regarding the **political environment**, Malaysia stands out as the country with the lowest political risk, scoring 2 out of 7 points, compared to Thailand and Indonesia, with both scoring 3. The same accounts for the Corruption Perception Index, which ranks Malaysia as 62nd out of 180 countries, followed by Indonesia as 96th, and Thailand as 110th. Looking at the **economic situation**, Indonesia has the largest economy with a GDP of $1.19tn USD, compared to Thailand with $505.98bn USD and Malaysia with $373bn USD. In contrast, Malaysia has the highest GDP per capita at $11,371 USD, outperforming Thailand with $7,233 USD and

Indonesia with $4,292 USD (World Bank 2021h). This positions Malaysia as the most developed country with a high level of prosperity and economic strength. Furthermore, Indonesia is classified as a lower middle-income economy, while the others are classified as upper middle-income economies.

With regard to **socio-cultural conditions**, Hofstede's cultural dimensions are further analyzed (see Appendix 16). Evaluating potential cultural differences is crucial when choosing the right market (E1, E2, E12). Therefore, the cultural distance to Germany is compared to identify the market with the nearest distance. In this case, Thailand has the lowest cultural distance from Germany, with a score of 4.61, followed by Indonesia with 4.75 and Malaysia with 5.83[6]. Thus, Thailand provides the most favorable conditions from a cultural perspective for German SMEs to enter. However, it should be noted that all three countries have similar scores, tending to be further away from Germany. In summary, Malaysia stands out when considering political, economic, and socio-cultural conditions. Although the country has a greater cultural distance from Germany, its political system and economic development are highly advanced and offer the most favorable conditions for successful expansion.

Comparing the **healthcare system dimension**, Indonesia's healthcare spendings are the highest (see Table 9 below). However, per capita healthcare expenditure and expenditure as % of GDP are significantly lower than in the other countries. This demonstrates that the Indonesian healthcare system is lagging behind and still struggling in terms of financial burden and level of development. To compare, Malaysia already has an efficient healthcare system with excellent infrastructure and high-quality services, even leaving behind Thailand, which has a well-developed system as well. To conclude, although Indonesia represents the largest healthcare market, it is still in the early stages of development, while Thailand and Malaysia are already well developed. Here, Malaysia excels with the most advanced healthcare system.

[6] The calculation can be found in the "Country Selection" Excel file.

2021	Malaysia	Thailand	Indonesia
Total health expend. (in mn USD)	$15,350	$18,706.98	$32,900.77
Total health expend. as % of GDP	4.5	4.1	3.1
Per capita healthcare expend. (in USD)	$486 (2019)	$296 (2019)	$120 (2019)
Public health expend. – Total (in mn USD)	$8,039	$13,984.19	$16,134.52
Private health expend. – Total (in mn USD)	$7,310	$4,722.82	$16,766.25
Private health expend. – Out of pocket (in mn USD)	$5,316	$1,625.47	$11,235.239

Table 6: Comparison on Healthcare Expenditure Data for MIT, Source: Own illustration based on (GlobalData 2022a, 18), (GlobalData 2022c, 26), (GlobalData 2022b, 20–21) and (World Bank 2019d)

The third dimension discusses the **pharmaceutical industry**. Considering the **status quo** of the prevalent pharmaceutical industries among the three countries, Indonesia has by far the largest industry value with almost $12bn USD in 2021, compared to $6.4bn USD in Thailand and $3.8bn USD in Malaysia. Although a high and increasing industry growth rate can be noted for all countries, Indonesia experiences an outstanding growth of middle- and upper-class population, thus, leading to new demand for pharmaceuticals, especially in the private sector.

The **competitive landscape** in Malaysia, Thailand, and Indonesia is shaped by local manufacturers producing generic drugs and MNCs manufacturing innovative, patented drugs. Malaysian consumers are likely to prefer German products over other foreign products, but the market is lacking the visibility and availability of those. Thailand is facing a continuous influx of cheap generics from India and other proximate countries, leading to rising competitive pressure among generics manufacturers. Indonesia is confronted with regulatory issues for patent enforcement, low R&D investments, and a lack of highly skilled scientists, which encourages MNCs rather to import their patented pharmaceuticals instead of producing them locally. However, Indonesia's great economic growth and push of JKN will likely lead to rising demand for patented drugs in the future. Therefore, the market in Malaysia is currently suitable for new entrants for patented pharmaceuticals, while Thailand offers more favorable entry and market conditions for patented drugs and Indonesia, at the current time, for generic drugs.

The **regulatory landscapes** in MIT show similar conditions. While setting up a business is especially straightforward in Malaysia, the registration process for new products might be lengthy and difficult for products that have not yet been registered and certified elsewhere (e.g.

EMA or US FDA). According to the ASEAN regulatory harmonization scheme, if a product is approved in one of the three countries, it is automatically approved in the others, facilitating potential regional expansion.

While there is no formal **price** control mechanism in the private sector in MIT, Thailand's maximum selling prices are set by the manufacturer and cannot be increased by hospitals. In the public sector, all countries have drugs listings allowing for regulations of both product selection and price regulation. In Thailand, the governmental impact on price regulation is additionally amplified by containment strategies curbing drug costs.

With regards to **IP protection**, the 2022 International IP Index classifies Indonesia lowest among SEA with a score of 30.42%, followed by Thailand (35.78%) and Malaysia (51.9%). In all countries, challenges regarding compulsory licensing require IP protection improvements to be made in the future, which is especially important for innovator products. For foreign companies, Indonesia poses further obstacles as imported drugs forego protection and can be produced by local companies.

All three countries allow 100% **ownership equity** for pharmaceutical companies. The **ease of doing business** ranks Malaysia as the 12th, Thailand as the 21st, and Indonesia as the 73rd out of 190 countries. Malaysia outperforms Thailand and Indonesia in 7 out of 10 categories and offers the most favorable conditions for doing business overall.

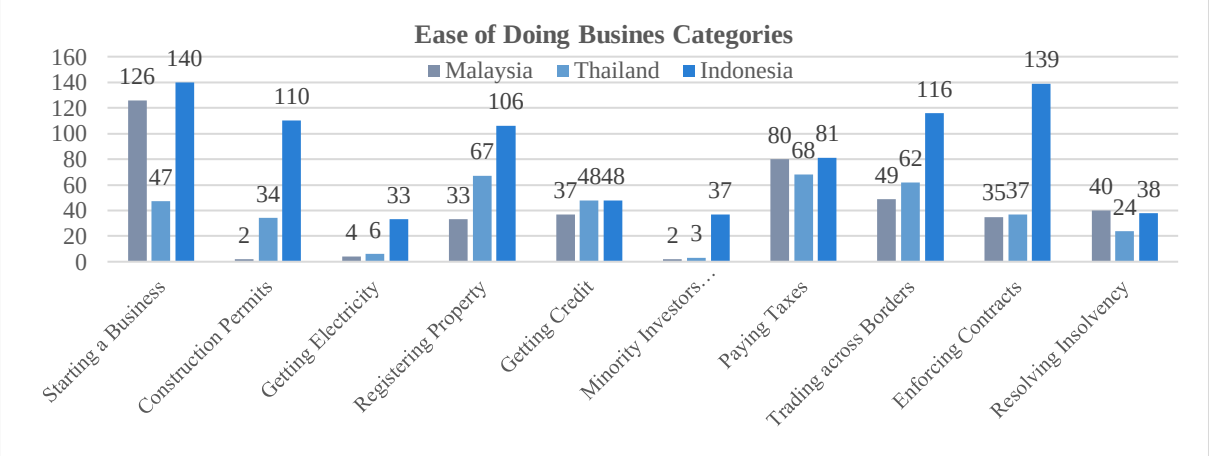


Figure 10: Comparison on "Ease of Doing Business" Ranks for MIT, Source: Own illustration based on (World Bank 2021c; 2021d; 2021b)

Malaysia, Thailand, and Indonesia have a similar range of **tax rates**. Malaysia has the highest standard CIT rate at 24%, while Thailand has the lowest standard CIT rate at 20%. However, all three countries offer tax incentives for SMEs.

In the view of all aspects analyzed, the **opportunities and risks** that result for the three countries can be discussed. In terms of market size, Malaysia is the most limited for German SMEs seeking growth potential, but Indonesia provides significant opportunities, particularly in terms of middle- and upper-class population growth. However, Thailand, with by far the highest per capita expenditure on pharmaceutical products and a population more than twice the size of Malaysia, offers significant growth opportunities as well. Local competition in all markets is usually prone to the development of generics, whereas MNCs bring in innovative and branded products. Because the government is one of MIT's largest customers in the pharmaceutical industry, it is eager to promote local businesses through listing activities or price control methods. Thus, it might be challenging for German generic manufacturers to compete with local companies since the markets are already saturated and local companies are favored. Furthermore, companies from China and India are entering the market, particularly in Thailand, and increase competitive pressure. In all countries, the market for innovative pharmaceuticals is not yet saturated, offering potential for foreign companies. In particular, innovative formulations for local key chronic illnesses (e.g. NCDs like diabetes) that experience increasing demand and thus, potentially offer an optimal product market fit might be a promising opportunity for German SMEs. Considering the government being one of the largest customers in all three markets and tending to favor local companies, as a foreign company, it is of utmost importance to bring in a medication that treats common illnesses to potentially be registered in the publicly available medications listing. However, in the public sector, competing on the low-price level is challenging due to budget constraints regarding healthcare spending, especially for innovative products in Thailand and Indonesia. In Indonesia

particularly, it might be challenging to bring in innovative products nowadays considering the large presence of low-priced pharmaceuticals. Since there are no price control mechanisms yet in Malaysia, this market potentially offers higher flexibility when setting prices. Considering the challenges arising in the public sector, the private sector functions as a significant opportunity for German innovator products. On the one hand, the population is looking into established brand names from Western countries, and, on the other hand, prices are higher on average compared to the public sector. Considering the rapid growth of Indonesia's private sector, new opportunities might arise for German SMEs in the long run. In Malaysia, the missing dispensing separation and the resulting dependency on doctors that are favoring local companies might be challenging when entering the market without a local partner. When analyzing and comparing the safety of MIT markets in terms of IP and ethical constraints, the Malaysian market appears as the most advanced and regulated one. Thailand and Indonesia face security and corruption challenges which poses potential obstacles for German SMEs. Similarly, in terms of the business environment, Malaysia encounters fewer challenges than Thailand and Indonesia. English as the prominent language and similarities in doing business provide favorable conditions for a market entry by German SMEs. However, entering partnerships with local companies could ease these challenges in doing business in Thailand and Indonesia. Especially in Indonesia, there are considerable challenges to establish a logistical and commercial infrastructure due to the fragmented geographical situation. Thus, it is of utmost importance for German SMEs to cooperate with a local distributor experienced in the market. Further opportunities of partnerships arise in Malaysia where German SMEs could collaborate with academic partners for scientific research which could potentially be favoring the relationship to the government to a large extent. To conclude, different opportunities and risks are prevalent among the MIT markets.

In summary, Figure 18 provides an assessment of each dimension and its subcategories, categorized as low (red), medium (yellow), and high (green).

DESCRIPTION	MALAYSIA	THAILAND	INDONESIA
Political, Economic and Socio-Cultural Conditions			
Healthcare System			
Pharmaceutical Industry (Overall Score)			
Status Quo			
Market Entry Conditions			
Competitive Landscape			
Regulation Process			
Pricing & Reimbursement			
Intellectual Property			
Ownership Equity			
Ease of Doing Business			
Tax Liability			

Figure 11: Assessment of Dimensions for MIT, Source: Own illustration based on in-depth analyses and discussion

To conclude, Malaysia is categorized as "high" in every dimension and hence, offers the highest potential for internationalization efforts. It is followed by Thailand which is classified as "high" in two out of five dimensions, and Indonesia, with no dimension categorized as "high". The next chapter addresses related strategic actions regarding this outcome.

8 Strategic Guidelines and Recommendations

Based on the discussion, the following chapter derives strategic recommendations with the help of the WH questions "Who?", "Where?", "When?", "Why?" and "How?". The market entry to Malaysia is illustrated in the form of a strategic 5-phase action plan. Subsequently, an expansion roadmap reflects the medium- and long-term horizon.

Who?

German pharmaceutical SMEs can bring the necessary expertise in terms of talent and scientific competence for manufacturing innovative, patented medicines for the MIT markets. Although risk aversion towards new technologies or investments into R&D for producing innovative pharmaceuticals might be common among German companies, the ones who seize the chance can grasp the arising business opportunities. Therefore, German SMEs are recommended to

focus on the innovative pharmaceutical market rather than on the generic market. It may be mentioned in this context that a stable presence in the home country is a vital prerequisite for expansion success to another continent.

Where and When?

Based on the output of the discussion, a long-term perspective is taken on. The MIT markets show expansion potential for German pharmaceutical SMEs and as the country selection was performed within the frame of achieving potential ease of expansion within a region, all three markets are considered for market entry. In this regard, the regulatory harmonization in terms of the ASEAN agreement is a convincing argument. However, each country is suitable at a different point in time due to the individual development levels. This results in the following chronological order of expansion: (1) Malaysia, (2) Thailand, (3) Indonesia.

Why?

At first, Malaysia provides the most favorable market conditions given the defined strategic focus of German pharmaceutical SMEs. The company establishment in Malaysia is facilitated by the advanced market in the examined aspects and by the consumer openness for patented drugs from Germany. Considering international price referencing, it is strategically reasonable to commence the expansion process in Malaysia, where there is no price control mechanism and prices can be set the highest among the MIT countries. Therefore, although the country and population size are smaller than in Thailand and Indonesia, it can be advantageous to start the SEA expansion with a manageable target consumer market and leverage on the growth phase that Malaysia is experiencing.

Subsequently, it is reasonable to enter Thailand as the second market in the region due to the larger market size and its growth trajectory. The market for innovative drugs experiences less competitive pressure than the generics market and is not yet fully saturated and fragmented. Moreover, the high per capita expenditure on pharmaceutical products is attractive with regard

to selling innovative drugs. The acquired operating experience from Malaysia can be utilized to prepare the market entry to Thailand with a more practical angle of view and learn from first-hand experiences within the SEA region.

Indonesia is attractive to enter as the third country as it is amidst its growth journey. Currently, the Indonesian market is suboptimal for the intended purpose of German pharmaceutical SMEs due to the favorable conditions for generics and the high protection for local manufacturing. Nevertheless, it is expected to develop into a market with a high demand for patented drugs in the future due to the vast consumer market and the rising spending power. Therefore, Indonesia offers ideal preconditions for German pharmaceutical SMEs only in several years, but when the time arises, companies can reap the benefits that the country provides. In the meantime, the German SME will have adopted a holistic view of how to do business in the SEA region and will be adequately prepared to enter a market of this size.

How?

In the following, concrete steps for the expansion to Malaysia are outlined in the form of a 5-phase action plan (see Table 10).

The first phase is the **Assessment of the Status Quo,** as German SMEs have to evaluate their presence in the market of origin to diagnose the current situation. They should perform an internal analysis, including the assessment of firm-specific advantages and country-specific advantages and the motives for internalization. For German SMEs, this step is crucial since they need to assess their global readiness and evaluate whether they are prepared to expand internationally. Further, the industry has to be analyzed using Porter's Five Forces model, for instance. Last, the growth potential within the current market environment should be estimated.

Phase two reflects the **Internationalization Strategy** in the present period of time. It includes the decision on the expansion country, the corresponding entry strategy with the selected entry mode as well as a thorough understanding of how to sustainably succeed. Here,

the goal setting for the expansion process including specific, measurable, achievable, relevant, and time-bound objectives plays a key role. Beyond that, phase two implies the communication of the brand's value to the stakeholders. It is noteworthy that, although MIT are located in the SEA region, the countries differ in terms of culture and market pain points. Therefore, the product-market fit should be elaborated on a country level instead of a regional level. Nevertheless, the rising NCDs are creating a target-rich setting for the corresponding therapeutic areas in all three countries and are worth considering as a focal field.

When **Preparing the Market Entry** into Malaysia as the first country among MIT in phase three, the conditions and length of registration processes play a significant role. Although setting up a business is quick and straightforward in Malaysia, registering a pharmaceutical product might be lengthy and requires planning in advance. Especially market access regarding clinical trials needs to be examined beforehand since ensuring compliance with local regulations is inevitable. While authorities like the Malaysian Investment Development Authority or the Malaysian-German Chamber of Commerce and Industry offer support by providing general market information and services, the Malaysian MOH and NPRA are the most important contacts to receive industry-specific assistance. Moreover, it is recommended to build local partnerships with distributors, academic institutions, and consultancies to leverage on the local knowledge and network. It can be strategically beneficial to consider DKSH and Zuellig Pharma as distributors due to their presence in all three markets. This might make consecutive market entries easier, more efficient and can even accelerate the whole expansion process. In order to prevent regulatory and compatibility issues in the future, key aspects like the firms' compliance with local and German laws as well as the company direction, namely OTC, B2B, B2C, or ethical focus. Reaching out to the Faculty of Pharmacy of the University Malaya or consultancies specialized in market access to Malaysia like "3E Accounting" further

offers the potential to strengthen local market knowledge. Local contacts can be acquired online or via pharmaceutical fairs like the annual "Convention on Pharmaceutical Ingredients".

In the fourth phase, the actual **Market Entry** phase, human resource efforts and relationship building with stakeholders play a key role. German pharmaceutical SMEs are advised to be aware of possible cultural differences. To support German employees in practicing cultural intelligence, organizing cross-cultural trainings is crucial. Further, efforts to hire local talent can be carried out at this stage. Besides building employee relationships, client relationships should be established. Apart from reaching out to private clinics and pharmacies, the government as the largest customer has a significant impact on the market dynamics.

Phase five involves the medium- and long-term perspective for **Further Market Expansion**. Here, monitoring the business performance and assessment of goal completion is essential. This allows to adapt the strategy, if necessary, and be able to adequately prepare the following market entries to Thailand and Indonesia.

Table 10 shows the 5-phase action plan for Malaysia and highlights the required duties and specific actions within the time horizons.

Phase	Phase 1: Assessment of the Status Quo	Phase 2: Internationalization Strategy	Phase 3: Entry Preparation Malaysia	Phase 4: Market Entry Malaysia	Phase 5: Further Market Expansion
Time Horizon	Present Time	Present Time	Short-Term	Short-Term	Medium- & Long-Term

Necessary Steps	▪ Internal Analysis
	  ▪ Firm-Specific Advantages & Country Specific Advantages
	  ▪ Motives for Internationalization
	▪ Industry Analysis
	▪ Assess Growth Potential within Market of Origin
		▪ Where to Play?
		▪ How to Enter?
		  ▪ Analysis of Entry Strategy and Selection of Entry Mode)
		▪ How to Sustainably Succeed?
		▪ Goal Setting for Expansion
		▪ Communication of Brand's Value to Stakeholders (Payers)
		▪ Identify Product-Market Fit
			▪ Registration Processes
			  ▪ Business Set Up
			  ▪ Product/Formulation
			▪ Clinical Trials
			▪ Research Local Partners and Establish Contracts
			  ▪ Authorities
			  ▪ Distribution
			  ▪ Academic Institutions
				▪ Cross-Cultural Trainings
				▪ Hiring Process of Local Talent
				▪ Build Customer Relationships e.g Government, Public & Private Hospitals, Pharmacies etc.
					▪ Monitor and Adapt Strategy within the Internationalization Process in Malaysia
					▪ Assess Goal Completion
					▪ Prepare Further Market Entries

Table 7: 5-Phase Action Plan, Source: Own illustration

Beyond that, the expansion roadmap below (Figure 19) illustrates the medium-term perspective for Thailand and the long-term perspective for Indonesia. Here, it should be noted that the 5-phase action plan set up for Malaysia is applicable to Thailand and Indonesia as well.

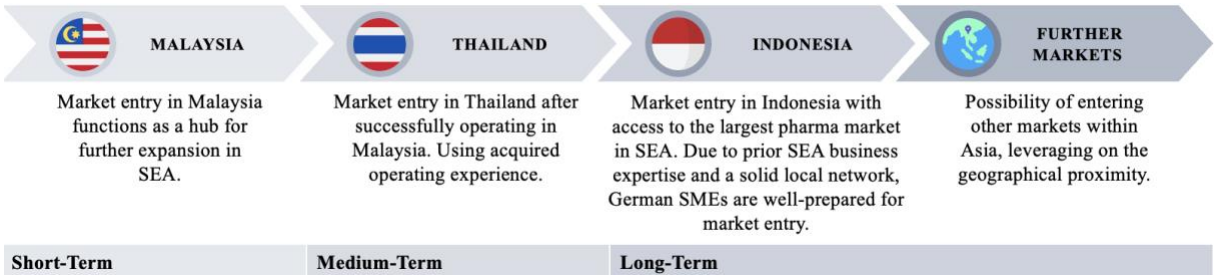


Figure 12: Expansion Roadmap for Medium- and Long-Term Perspective, Source: Own illustration

9 Conclusion

This paper aimed to thoroughly investigate potential markets appropriate for German pharmaceutical SMEs to consider for internationalization to Asia. After an overview of the German pharmaceutical industry and expertise was provided, a country selection process was performed, with Malaysia, Thailand, and Indonesia being chosen as potential markets to enter. Thus, an in-depth market examination was conducted for these three markets, analyzing political, economic, and socio-cultural factors, the healthcare industry, and various aspects of the pharmaceutical industry. After considering all factors by consolidating and comparing the opportunities and risks for German SMEs in each market, it was discovered that all three countries offer potential when considering a long-term perspective. From a short-term view, Malaysia was identified as an ideal starting country due to its favorable market conditions, functioning as a hub for further expansion for entering Thailand and Indonesia in the medium- and long run. Taking all countries into consideration enables German SMEs to utilize the different opportunities in each country and to leverage regional synergy effects like regulatory harmonization or the ability to cooperate with similar partners in all markets. Finally, a roadmap serving as a guideline for the long-term internationalization process was developed, narrowing down the necessary steps for expansion.

To conclude, expanding into MIT markets represents a significant opportunity for German pharmaceutical SMEs to grow and establish a strong market position in SEA.

10 Limitations and Future Research

Within the scope of this paper, there are several limitations as well as various aspects that are of particular interest for future research. One prevalent limitation of this paper is the incomplete survey examination. No further analysis was performed as the degree of representativeness of the sample, due to the lack of respondents, does not allow for drawing plausible conclusions. Future research could extend the current analysis by recreating and redistributing the created questionnaire to examine the consumer attitudes towards local vs. foreign pharmaceutical companies in MIT. Conducting the survey on a personal level on-site is more likely to receive a sufficient response rate[7]. In addition, due to resource constraints, only 14 interviews (15 participants) have been conducted as part of this university paper, resulting in a small sample size. This may affect the representativeness and quality of the resulting findings. Moreover, other markets within the SEA region could be analyzed and evaluated for a future market entry concerning the innovative focus of German pharmaceutical SMEs. Special attention can be paid to the Velocity 12 markets, namely India, China, Pakistan, Bangladesh, Philippines, Vietnam, and Myanmar, due to their fast-growing economies and dynamic environment. Furthermore, other stages of the supply chain of the pharmaceutical industry besides manufacturing could be considered for future research. Lastly, a thorough analysis of possible entry modes for internationalization would contribute to an improved expansion strategy.

Bearing the aforementioned supplementary study areas in mind, one should consider the subject's complexity due to the various angles of the pharmaceutical industry and the number of distinctive Asian markets.

[7] E15 states that survey response rates are generally low when not performed face-to-face in MIT.

References

Acclime. 2021. “100% Foreign Business Ownership in Thailand.” 2021. https://thailand.acclime.com/guides/foreign-business-ownership/#:~:text=As%20a%20general%20rule%2C%20a,than%2049%25%20of%20the%20shares.

Adcock, Alan, Atthachai Homhuan, and San Chaithiraphant. 2019. “Pharma Legal Handbook Thailand.” Bangkok: Tilleke & Gibbins.

Albrecht, Julia, and Gregor Kemper. 2021. “The Pharmaceutical Industry in Germany.” Germany Trade & Invest.

Asian Development Bank. 2017. “Strong Asian Intraregional Trade and Investment Improve Economic Resilience.” 2017. https://www.adb.org/news/strong-asian-intraregional-trade-and-investment-improve-economic-resilience.

———. 2022a. “Developing Asia Economies Set to Grow 5.2% This Year Amid Global Uncertainty.” Asian Development Bank. 2022. https://www.adb.org/news/developing-asia-economies-set-grow-5-2-year-amid-global-uncertainty.

———. 2022b. “Southeast Asia Rising from the Pandemic.” 0 ed. Manila, Philippines: Asian Development Bank. https://doi.org/10.22617/TCS220093-2.

BMWK. 2019. “The German Mittelstand as a Model for Success.” Federal Ministry for Economic Affairs and Climate Action. 2019. https://www.bmwk.de/Redaktion/EN/Dossier/sme-policy.html.

———. 2022a. “Europäische Handelspolitik.” BMWK. 2022. https://www.bmwk.de/Redaktion/DE/Dossier/handelspolitik.html.

———. 2022b. “Europäische Mittelstandspolitik.” BMWK. https://www.bmwk.de/Redaktion/DE/Textsammlungen/Mittelstand/europaeische-mittelstandspolitik.html.

BPI. 2021. “Pharma-Daten 2021.” Bundesverband der Pharmazeutischen Industrie e.V.

Britannica. 2022. “Thailand.” 2022. https://www.britannica.com/place/Thailand.

Bumrungrad International Hospital. n.d. “Bumrungrad Fact Sheet.” https://www.bumrungrad.com/en/about-us/bumrungrad-factsheet.

Carlson, Brian G., Julian Kamasa, Linda Maduz, Niklas Masuhr, and Lisa Watanabe. 2021. *Strategic Trends 2021: Key Developments in Global Affairs*. Edited by Oliver Thränert. Zürich: Center for Security Studies (CSS).

Deloitte. 2017. “Deloitte Report: Asia Will Be Home to 60% of World’s over 65s by 2030, Creating Growth Opportunities for Business.” Deloitte. 2017. https://www2.deloitte.com/bd/en/pages/about-deloitte/articles/deloitte-report-creating-growth-opportunities-for-business.html.

Dickov, Veselin, Dragan Mitrovic, and Boris Kuzman. 2011. “Analyzing Pharmaceutical Industry.” *National Journal of Physiology, Pharmacy and Pharmacology* 1: 1–8.

Dreyfuss, Thomas. 2018. “Emerging Market Access Strategy in the Pharmaceutical Industry: The Example of Thailand.” Université de Strasbourg.

EFPIA. 2022. “The Pharmaceutical Industry in Figures.” European Federation of Pharmaceutical Industries and Associations. https://www.efpia.eu/media/637143/the-pharmaceutical-industry-in-figures-2022.pdf.

European Commission. 2020. “User Guide to the SME Definition.” https://single-market-economy.ec.europa.eu/smes/sme-definition_en.

Glinskaya, Elena, Thomas Walker, and Thisuri Wanniarachchi. 2021. “Caring for Thailand’s Aging Population.” World Bank.

GlobalData. 2022a. “Country Report - Indonesia.”

———. 2022b. “Country Report - Malaysia.”

———. 2022c. “Country Report - Thailand.”
Greenbaum, Karen. 2018. “Executive Talent.” *AESC*, Executive Talent, 13.
Herr, Hansjörg, and Zeynep Mualla Nettekoven. 2018. “The Role of Small and Medium-Sized Enterprises in Development: What Can Be Learned from the German Experience?,” 63.
Hester, R. E., and Roy M. Harrison, eds. 2016. *Pharmaceuticals in the Environment*. Issues in Environmental Science and Technology 41. Cambridge: Royal Society of Chemistry.
Hofstede Insights. 2022. “Country Comparison.” 2022. https://www.hofstede-insights.com/country-comparison/germany,indonesia,malaysia,thailand/.
Holloway, Immy. 2005a. *Qualitative Research in Health Care*. UK: McGraw-Hill Education. https://www.lsms.ac/public/uploads/088yDTJdPYq2CdgqLCOXp0GpOxDbRBTRJX7hr1xArq5zatQJIC1575401043loPcbB14GXaS61brpLxhjd61QG6J8x1fwdWZ54o7vL6f01eHSQ.pdf.
———. 2005b. *Qualitative Research in Health Care*. UK: McGraw-Hill Education. https://www.lsms.ac/public/uploads/088yDTJdPYq2CdgqLCOXp0GpOxDbRBTRJX7hr1xArq5zatQJIC1575401043loPcbB14GXaS61brpLxhjd61QG6J8x1fwdWZ54o7vL6f01eHSQ.pdf.
IQVIA. 2022a. “IQVIA Market Prognosis 2022-2026: Key Findings.”
———. 2022b. “IQVIA Marktbericht Classic - Entwicklung Des Deutschen Pharmamarktes Im Kalenderjahr 2021.”
Kawai, Masahiro, and Ganeshan Wignaraja. 2014. “Trade Policy and Growth in Asia.” Asian Development Bank Institute.
KPMG. 2022. “Economic Key Facts Germany.” KPMG. 2022. https://home.kpmg/de/en/home/insights/overview/economic-key-facts-germany.html.
Liu, Bruce. 2022. “Asia’s Rise in The Global Pharma Industry.” *Pharmexec* 42 (7): 10.
McManus, Joanne. 2012. “Thailand’s Universal Coverage Scheme: Achievements and Challenges: An Independent Assessment of the First 10 Years.” Health Insurance System Research Office.
Mikulic, Matej. 2021. “Revenues of Top 10 National Pharmaceutical Markets Worldwide in 2020.” 2021. https://www.statista.com/statistics/266469/revenues-of-the-top-10-global-pharmaceutical-markets/.
Nuruzzaman, Syed, and Yusuke Tateno. 2021. “COVID-19 Pandemic and the Asia-Pacific LDCs: Impacts, Challenges, Gaps and Way Forward.” United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP).
Ochieng, Pamela Atieno. 2009. “AN ANALYSIS OF THE STRENGTHS AND LIMITATION OF QUALITATIVE AND QUANTITATIVE RESEARCH PARADIGMS” 13.
OECD. 2022. “Country Risk Classification.” OECD. 2022. https://www.oecd.org/trade/topics/export-credits/documents/cre-crc-current-english.pdf.
OECD and EU IP Office. 2020. *Trade in Counterfeit Pharmaceutical Products*. Illicit Trade. OECD. https://doi.org/10.1787/a7c7e054-en.
OECD and WHO. 2020. *Health at a Glance: Asia/Pacific 2020: Measuring Progress Towards Universal Health Coverage*. Chapter 6. Health at a Glance: Asia/Pacific. OECD. https://doi.org/10.1787/26b007cd-en.
Ogilvy. 2016. “The Velocity 12 Markters. Reshaping the World View of Middle-Class Growth.”
Olarn, Kocha, and Kathleen Magramo. 2022. “Thailand Has Suspended Its Prime Minister. What Happens Next?” CNN Cable News Netowrk. 2022.

https://edition.cnn.com/2022/08/25/asia/thailand-prayut-chan-ocha-suspended-explainer-intl-hnk/index.html.
Pharmexcil. 2020. “Thailand Pharma Market & Regulatory Report.” Pharmaceuticals Export Promotion Council of India.
Pugatch, Meir, and David Torstensson. 2022. “2022 International IP Index: Compete for Tomorrow.” Tenth Edition. U.S. Chamber of Commerce.
PwC. 2017. “Explore Healthcare Opportunities in Belt and Road Countries – Thailand.”
———. 2020. “Pharma 2020: Supplying the Future. Which Path Will You Take?” https://www.pwc.com/gx/en/pharma-life-sciences/pharma-2020/assets/pharma-2020-supplying-the-future.pdf.
———. 2022a. “Thailand: Corporate - Branch Income.” 2022. https://taxsummaries.pwc.com/thailand/corporate/branch-income.
———. 2022b. “Thailand: Corporate - Other Taxes.” 2022. https://taxsummaries.pwc.com/thailand/corporate/other-taxes.
———. 2022c. “Thailand: Corporate - Taxes on Corporate Income.” 2022. https://taxsummaries.pwc.com/thailand/corporate/taxes-on-corporate-income.
Roser, Max, Hannah Ritchie, and Fiona Spooner. 2021. “Burden of Disease.” Our World in Data. 2021. https://ourworldindata.org/burden-of-disease.
Rudnicka. 2022. “Umsätze Der Wichtigsten Industriebranchen in Deutschland in Den Jahren von 2019 Bis 2021.” 2022. https://de.statista.com/statistik/daten/studie/241480/umfrage/umsaetze-der-wichtigsten-industriebranchen-in-deutschland/.
SESRIC. 2009. “Pharmaceutical Industry. Production, Consumption and Trade in OIC Member Countries.” https://sesricdiag.blob.core.windows.net/sesric-site-blob/files/article/433.pdf.
Simon, Hermann. 2016. “The German Mittelstand in Globalia.” German-Asia-Pacific Business Association. https://www.oav.de/iap-32016/artikel-210.html.
Song, Wanyuan. 2022. “What Is China’s Zero Covid Policy and What Are Its Rules?” BBC. 2022. https://www.bbc.com/news/59882774.
Statista. 2020. “The Rise of the Asian Middle Class.” 2020. https://www.statista.com/chart/8402/asian-middle-class-on-the-rise/.
———. 2021. “Number of Pharmaceutical Licenses in Thailand from 2011 to 2020.” 2021. https://www.statista.com/statistics/1114568/thailand-number-of-pharmaceutical-licenses/.
———. 2022a. “Global Pharmaceutical Industry - Statistics & Facts.” 2022. https://www.statista.com/topics/1764/global-pharmaceutical-industry/#topicHeader__wrapper.
———. 2022b. “Market Share of Pharmaceutical Products in Thailand in 2021, by Type.” 2022. https://www.statista.com/statistics/1293969/thailand-pharmaceutical-market-share-by-type/.
———. 2022c. “Number of Hospitals in Thailand from 2011 to 2020.” 2022. https://www.statista.com/statistics/1114483/thailand-number-of-hospitals/.
———. 2022d. “Number of Pharmaceutical Companies in Southeast Asia in 2020, by Selected Country.” 2022. https://www.statista.com/statistics/1281179/asean-number-pharma-companies-by-country/.
———. 2022e. “Per Capita Expenditure on Pharmaceuticals in Southeast Asia in 2020, by Selected Country.” 2022. https://www.statista.com/statistics/1291687/sea-pharma-spending-per-capita-by-country/.

———. 2022f. “Pharmaceutical Sales in Southeast Asia in 2020 with Forecasts for 2024, by Selected Country (in Billion U.S. Dollars).” 2022. https://www.statista.com/statistics/1294469/asean-pharmaceutical-sales-by-country/.
———. 2022g. “Total Global Spending on Pharmaceutical Research and Development from 2014 to 2028 (in Billion U.S. Dollars).” 2022. https://www.statista.com/statistics/309466/global-r-and-d-expenditure-for-pharmaceuticals/#:~:text=In%202021%2C%20research%20and%20development,238%20billion%20U.S.%20dollars%20globally.
———. 2022h. “Total Market Value of Medical Tourism in Thailand in 2019 with a Forecast for 2027.” 2022. https://www.statista.com/statistics/1311335/thailand-market-value-of-medical-tourism/.
Steinbrook, Robert. 2007. “Thailand and the Compulsory Licensing of Efavirenz.” *The New England Journal of Medicine* 356 (6).
Stifterverband. 2021. “Zahlenwerk 2021.” Stifterverband.
Switzerland Global Enterprise. 2021. “Market Report: Thailand. Business Opportunities in Digital Health.”
Taylor, David. 2015. “The Pharmaceutical Industry and the Future of Drug Development.” In *Issues in Environmental Science and Technology*, edited by R E Hester and R M Harrison, 1–33. Cambridge: Royal Society of Chemistry. https://doi.org/10.1039/9781782622345-00001.
Thailand BOI. 2020. “Thailand Medical Destination: Finding Wealth in Wellness.” Thailand Board of Investment.
———. n.d. “Why Thailand.” Thailand Board of Investment.
Thailand Investment Review. 2017. “Thailand 4.0 Means Opportunity Thailand.” Thailand Board of Investment.
The Economist. 2018. “Making The Most of Opportunity: Pharmaceutical Strategy in Asia.” The Economist Intelligence Unit Ltd.
Tonby, Oliver, Jonathan Woetzel, Wonsik Choi, Jeongmin Seong, and Patti Wang. 2019. “Asia’s Future Is Now.” McKinsey.
Transparency International. 2021. “Corruption Perceptions Index: Thailand.” 2021. https://www.transparency.org/en/countries/thailand.
Tunpaiboon, Narin. 2019. “Thailand Industry Outlook 2019-2021: Pharmaceuticals.” Krungsri Research.
UNESCAP. 2015. “Global Value Chains and Interconnectedness of Asia-Pacific Economis.” In *Asia-Pacific Trade and Investment Report 2015*, 103. https://www.unescap.org/sites/default/files/Chapter%207%20-%20GVCs%20in%20the%20Asia-Pacific.pdf.
———. 2017. “Ageing in Asia and the Pacific: Overview.” United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP).
US FDA. 2017. “Prescription Drugs and Over-the-Counter (OTC) Drugs: Questions and Answers.” 2017. https://www.fda.gov/drugs/frequently-asked-questions-popular-topics/prescription-drugs-and-over-counter-otc-drugs-questions-and-answers.
Vfa. 2022. “Weltweit an Der Spitze: Arzneimittel ‘ Made in Germany.’” 2022. https://www.vfa.de/de/wirtschaft-politik/pharma-produktion-in-deutschland.
WHO. 2018. *How Pharmaceutical Systems Are Organized in Asia and the Pacific*. Manila: World Health Organization Regional Office for the Western Pacific.
———. 2020. “Noncommunicable Diseases.” 2020. https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases.
Witt, Michael. 2021. “Thailand: A Concise Profile, 2021.” INSEAD.

World Bank. 2011. “Thailand Now an Upper Middle Income Economy.” 2011. https://www.worldbank.org/en/news/press-release/2011/08/02/thailand-now-upper-middle-income-economy.
———. 2012. “Thailand: Sustaining Health Protection for All.” 2012. https://www.worldbank.org/en/news/feature/2012/08/20/thailand-sustaining-health-protection-for-all.
———. 2019a. “Cause of Death, by Non-Communicable Diseases (% of Total) - Thailand.” 2019. ttps://data.worldbank.org/indicator/SH.DTH.NCOM.ZS?locations=TH.
———. 2019b. “Current Health Expenditure (% of GDP).” 2019. https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS.
———. 2019c. “Current Health Expenditure (% of GDP) - Thailand.” 2019. https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS?locations=TH.
———. 2019d. “Current Health Expenditure per Capita (Current US$).” 2019. https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD.
———. 2019e. “Current Health Expenditure per Capita (Current US$) - Thailand.” 2019. https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD?locations=TH.
———. 2019f. “Domestic General Government Health Expenditure (% of GDP).” 2019. https://data.worldbank.org/indicator/SH.XPD.GHED.GD.ZS.
———. 2019g. “Ease of Doing Business Rank (1=most Business-Friendly Regulations) - Thailand.” 2019. https://data.worldbank.org/indicator/IC.BUS.EASE.XQ?locations=TH.
———. 2019h. “Ease of Doing Business Score (0 = Lowest Performance to 100 = Best Performance).” 2019. https://data.worldbank.org/indicator/IC.BUS.DFRN.XQ.
———. 2019i. “Ease of Doing Business Score (0 = Lowest Performance to 100 = Best Performance) - Thailand.” 2019. https://data.worldbank.org/indicator/IC.BUS.DFRN.XQ?locations=TH.
———. 2019j. “Nurses and Midwives (per 1,000 People) - Thailand.” 2019. https://data.worldbank.org/indicator/SH.MED.NUMW.P3?locations=TH.
———. 2019k. “Out-of-Pocket Expenditure (% of Current Health Expenditure) - Thailand.” 2019. https://data.worldbank.org/indicator/SH.XPD.OOPC.CH.ZS?locations=TH.
———. 2019l. “Physicians (per 1,000 People) - Thailand.” 2019. https://data.worldbank.org/indicator/SH.MED.PHYS.ZS?locations=TH.
———. 2020a. “Land Area (Sq. Km) - Thailand.” 2020. https://data.worldbank.org/indicator/AG.LND.TOTL.K2?locations=TH.
———. 2020b. “Life Expectancy at Birth, Female (Years) - Thailand.” 2020. https://data.worldbank.org/indicator/SP.DYN.LE00.FE.IN?locations=TH.
———. 2020c. “Life Expectancy at Birth, Male (Years) - Thailand.” 2020. https://data.worldbank.org/indicator/SP.DYN.LE00.MA.IN?locations=TH.
———. 2020d. “Life Expectancy at Birth, Total (Years) - Thailand.” 2020. https://data.worldbank.org/indicator/SP.DYN.LE00.IN?locations=TH.
———. 2021a. “Agriculture, Forestry, and Fishing, Value Added (% of GDP) - Thailand.” 2021. https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?locations=TH.
———. 2021b. “Ease of Doing Business in Indonesia.” 2021. https://archive.doingbusiness.org/en/data/exploreeconomies/indonesia#DB_sb.
———. 2021c. “Ease of Doing Business in Malaysia.” 2021. https://archive.doingbusiness.org/en/data/exploreeconomies/malaysia.
———. 2021d. “Ease of Doing Business in Thailand.” 2021. https://archive.doingbusiness.org/en/data/exploreeconomies/thailand.
———. 2021e. “Exports of Goods and Services (% of GDP) - Thailand.” 2021. https://data.worldbank.org/indicator/NE.EXP.GNFS.ZS?locations=TH.

———. 2021f. “Exports of Goods and Services (Current US$) - Germany.” 2021. https://data.worldbank.org/indicator/NE.EXP.GNFS.CD?locations=DE.
———. 2021g. “GDP (Current US$) - Thailand.” 2021. https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=TH&most_recent_year_desc=true.
———. 2021h. “GDP per Capita (Current US$).” 2021. https://data.worldbank.org/indicator/NY.GDP.PCAP.CD.
———. 2021i. “GDP per Capita (Current US$) - Thailand.” 2021. https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=TH.
———. 2021j. “GDP per Capita Growth (Annual %).” 2021. https://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG.
———. 2021k. “Imports of Goods and Services (Current US$) - Germany.” 2021. https://data.worldbank.org/indicator/NE.IMP.GNFS.CD?locations=DE.
———. 2021l. “Industry (Including Construction), Value Added (% of GDP) - Thailand.” 2021. https://data.worldbank.org/indicator/NV.IND.TOTL.ZS?locations=TH.
———. 2021m. “Population Ages 65 and above (% of Total Population) - Thailand.” 2021. https://data.worldbank.org/indicator/SP.POP.65UP.TO.ZS?locations=TH.
———. 2021n. “Population Growth (Annual %) - Thailand.” 2021. https://data.worldbank.org/indicator/SP.POP.GROW?locations=TH.
———. 2021o. “Population, Total.” 2021. https://data.worldbank.org/indicator/SP.POP.TOTL.
———. 2021p. “Population, Total - Bahrain.” 2021. https://data.worldbank.org/indicator/SP.POP.TOTL?locations=BH.
———. 2021q. “Population, Total - Brunei Darussalam.” 2021. https://data.worldbank.org/indicator/SP.POP.TOTL?locations=BN.
———. 2021r. “Population, Total - Germany.” 2021. https://data.worldbank.org/indicator/SP.POP.TOTL?locations=DE.
———. 2021s. “Population, Total - Kazakhstan.” 2021. https://data.worldbank.org/indicator/SP.POP.TOTL?locations=KZ.
———. 2021t. “Population, Total - Qatar.” 2021. https://data.worldbank.org/indicator/SP.POP.TOTL?locations=QA.
———. 2021u. “Population, Total - Thailand.” 2021. https://data.worldbank.org/indicator/SP.POP.TOTL?locations=TH.
———. 2021v. “Services, Value Added (% of GDP) - Thailand.” 2021. https://data.worldbank.org/indicator/NV.SRV.TOTL.ZS?locations=TH.
———. 2021w. “Urban Population (% of Total Population) - Thailand.” 2021. https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?locations=TH.
———. 2022a. “Population Growth (Annual %).” 2022. https://data.worldbank.org/indicator/SP.POP.GROW.
———. 2022b. “Unemployment, Total (% of Total Labor Force) (Modeled ILO Estimate) - Thailand.” 2022. ttps://data.worldbank.org/indicator/SL.UEM.TOTL.ZS?locations=TH.
———. 2022c. “Urban Population Growth (Annual %).” 2022. https://data.worldbank.org/indicator/SP.URB.GROW.
———. 2022d. “World Bank Country and Lending Groups.” 2022. https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups.
World Economics. 2022. “The Future Is Asian.” 2022. https://www.worldeconomics.com/Thoughts/The-future-is-asian.aspx.

Yousapronpaiboon, Khanchitpol, and William Johnson. 2013. “A Comparison of Service Quality between Private and Public Hospitals in Thailand.” *International Journal of Business and Social Science* 4 (11).
ZEW. 2021. “Innovationen ZEW Branchenreport - Ergebnisse Der Deutschen Innovationserhebung 2021.” Leibniz-Zentrum für Europäische Wirtschaftsforschung.

Appendices

Appendix 1: List of Figures and List of Tables

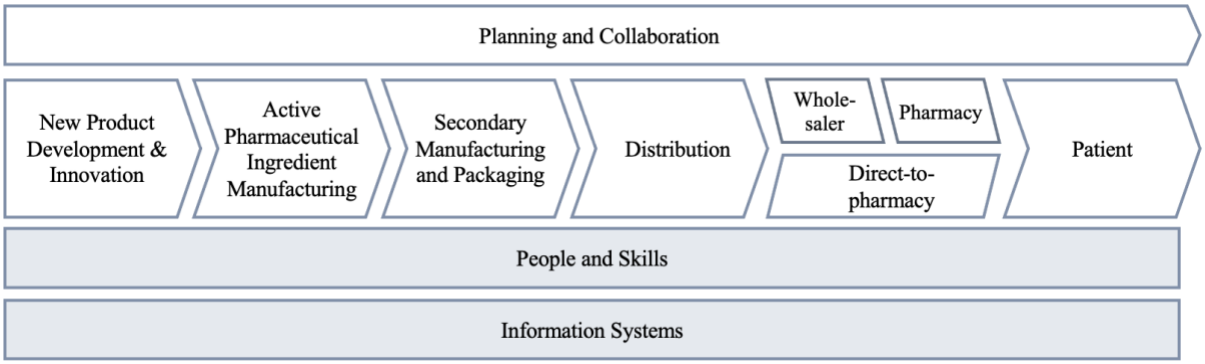
List of Figures

List of Tables

Appendix 2: List of Abbreviations

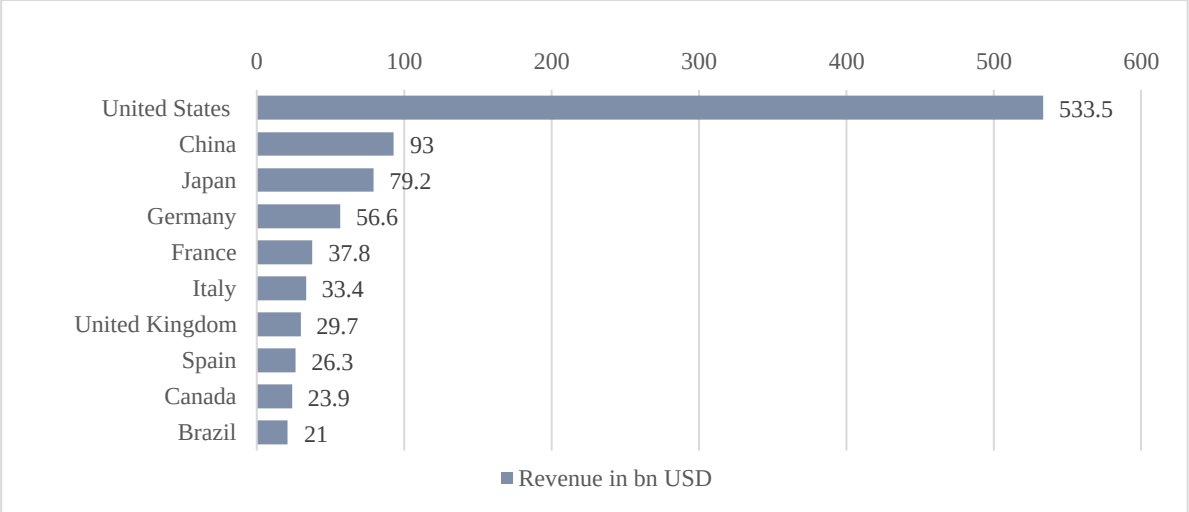
APEC = Asian-Pacific Economic Cooperation
ASEAN = Association of Southeast Asian Nations
B2B = Business-to-Business
BOI = Board of Investment
CIT = Corporate Income Tax
CMSME = Cottage Small and Medium Sized Enterprises
CSMBS = Civil Servant Medical Benefit Scheme
EMA = European Medical Association
EU = European Union
FDA = Food and Drug Administration
FORNAS = National Formulary
GDP = Gross Domestic Product
GNI = Gross National Income
GPO = Government Pharmaceutical Organization
HIV = Human Immunodeficiency Virus
IDR = Indonesian Rupiah
IP = Intellectual Property
IPR = International Price Referencing
JKN = Jaminan Kesehatan Nasional
MIT = Malaysia, Indonesia and Thailand
MNC = Multinational Corporation
MOH = Ministry of Health
MOPH = Ministry of Public Health
MYR = Malaysian Ringgit
NADFC = National Agency of Drug and Food Control
NCD = Non-communicable Disease
NLED = National List of Essential Drugs
NPRA = National Pharmaceutical Regulatory Agency
OTC = Over-the-counter
PICS = Pharmaceutical Inspection Co-operation Scheme
R&D = Research & Development
RCEP = Regional Comprehensive Economic Partnership
SEA = Southeast-Asia
SME = Small and Medium-sized Enterprises
SSS = Social Security Scheme
THB = Thai Baht
TTP = Transpacific Partnership
UCS = Universal Coverage Scheme
US = United States
USD = United States Dollar
VAT = Value Added Tax
WHO = World Health Organization

Appendix 3: Pharmaceutical Industry Supply Chain



Source: Own illustration based on (PwC 2020)

Appendix 4: Revenues of Top 10 National Pharmaceutical Markets Worldwide in 2020



Source: Own illustration based on (Mikulic 2021)

Appendix 5: Description and Reasoning of Country Selection Variables

Dimension	Variable	Description and Reasoning	Weight
Market Size	**Population Ages 65 and Above (% of Total Population)**	"Population ages 65 and above as a percentage of the total population. Population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship."	2%
	Urban Population (% of Total Population)	"Explosive growth of cities globally signifies the demographic transition from rural to urban and is associated with shifts from an agriculture-based economy to mass industry, technology, and service. In principle, cities offer a more favorable setting for the resolution of social and environmental problems than rural areas. Cities generate jobs and income, and deliver education, health care and other services"	2%
	Population Density	"Population density is midyear population divided by land area in square kilometers. Population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship--except for refugees not permanently settled in the country of asylum, who are generally considered part of the population of their country of origin. Land area is a country's total area, excluding area under inland water bodies, national claims to continental shelf, and exclusive economic zones. In most cases the definition of inland water bodies includes major rivers and lakes."	1%
Market Intensity	**GDP per Capita**	"GDP per capita is gross domestic product divided by midyear population."	2%
	Adjusted Net National Income per Capita	"Adjusted net national income is GNI minus consumption of fixed capital and natural resources depletion."	1%
Market Growth Rate	**Annual Population Growth**	"Annual population growth rate for year t is the exponential rate of growth of midyear population from year t-1 to t, expressed as a percentage."	9%
	Annual Urban Population Growth	"Urban population refers to people living in urban areas as defined by national statistical offices. It is calculated using World Bank population estimates and urban ratios from the United Nations World Urbanization Prospects."	9%
	Annual GDP per Capita Growth	"Annual percentage growth rate of GDP per capita based on constant local currency. GDP per capita is gross domestic product divided by midyear population."	9%
Market Receptivity	**Consumer Price Index**	"Consumer price index reflects changes in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. The Laspeyres formula is generally used. Data are period averages."	1%
	Trade (% of GDP)	"Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product."	4%
	Net Trade in Goods (BoP, current US$)	"Net trade in goods is the difference between exports and imports of goods. Trade in services is not included. Data are in current U.S. dollars."	2%
	Logistics Performance Index (1=low to 5=high)	"Logistics Performance Index overall score reflects perceptions of a country's logistics based on efficiency of customs clearance process, quality of trade- and transport-related infrastructure, ease of arranging competitively priced shipments, quality of logistics services, ability to track and trace consignments, and frequency with which shipments reach the consignee within the scheduled time. The index ranges from 1 to 5, with a higher score representing better performance."	2%
	Foreign Direct Investment, Net Inflows (BoP, current US$)	"Foreign direct investment refers to direct investment equity flows in the reporting economy. It is the sum of equity capital, reinvestment of earnings, and other capital. Direct investment is a category of cross-border investment associated with a resident in one economy having control or a significant degree of influence on the management of an enterprise that is resident in another economy. Ownership of 10 percent or more of the ordinary shares of voting stock is the criterion for determining	5%

		the existence of a direct investment relationship. Data are in current U.S. dollars."	
Standard of Living	**Life Expectancy**	"Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life."	1%
	Unemployment Rate (% of Workforce)	"Unemployment refers to the share of the labor force that is without work but available for and seeking employment.Paradoxically, low unemployment rates can disguise substantial poverty in a country, while high unemployment rates can occur in countries with a high level of economic development and low rates of poverty. In countries without unemployment or welfare benefits people eke out a living in vulnerable employment."	3%
Digital Affinity	**Individuals Using the Internet (% of population)**	"Internet users are individuals who have used the Internet (from any location) in the last 3 months. The Internet can be used via a computer, mobile phone, personal digital assistant, games machine, digital TV etc."	2%
Ease of Doing Business	**Ease of Doing Business Score (0 = Lowest Performance to 100 = Best Performance)**	"The ease of doing business scores benchmark economies with respect to regulatory best practice, showing the proximity to the best regulatory performance on each Doing Business indicator. An economy's score is indicated on a scale from 0 to 100, where 0 represents the worst regulatory performance and 100 the best regulatory performance."	12%
Country Risk	**Business Environment Risk**	"The assessment of the risk caused by default of the debtor consists primarily of a case-by-case assessment of the risk on the debtor/obligor and the trade sector and country in which it is active. Some macrofactors such as a sharp currency depreciation, high real interest rates, an economic recession or a context of widespread corruption, however, have an influence on the business environment, thereby affecting the payment capacity of all debtors/obligors in a country. The data found were presented from A-F, however they were modified to a scale of 1-7 where A=1, B=2,C=3 etc., so the smaller the number the lower the business environment risk."	2%
	Political Risk Rating	"Political and assimilated events encompass all events assuming a case of force majeure for the insured or the debtor/obligor being foreign exchange shortage, political unrest such as war, revolution or riot, natural disaster and arbitrary government action. Countries are classified into seven categories (from 1 to 7) reflecting the intensity of risks arising as a result of political and assimilated events. Category 1 includes those countries for which the risk is considered the lowest and category 7 contains those countries with the highest likelihood of risks being caused by political and assimilated events."	2%
	Country Risk	"The rating reflects country risk which encompasses transfer and convertibility risk and cases of force majeure (e.g. war, expropriation, revolution, civil disturbance, floods, earthquakes). The scale from 1 to 8 indicates that a higher number translates to a higher country risk."	2%
	Competitiveness Rank	"The rating is made up of 98 variables organized into twelve pillars with the most important including: institutions; infrastructure; ICT adoption; macroeconomic stability; health; skills; product market; labour market; financial system; market size; business dynamism; and innovation capability. A higher score means a higher degree of competitiveness in the country."	2%
Economic Freedom	**Economic Freedom Index**	"Economic freedom is the fundamental right of every human to control his or her own labor and property. The higher the number, the greater the economic freedom."	2%
	Political Freedom Index	"Political freedom index indicates a country's level of freedom in terms of the political situation. The higher the ank, the greater the political freedom."	2%
Cultural Distance	**Cultural Distance to Germany**	"The measurement of cultural distance for each country in comparison to Germany as the home country is achieved by using Hofstede's method that includes 6 dimensions: Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long Term Orientation and Indulgence."	2%

Healthcare Specifics	**Domestic General Government Health Expenditure (% of GDP)**	"Strengthening health financing is one objective of Sustainable Development Goal 3 (SDG target 3.c). The levels and trends of health expenditure data identify key issues such as weaknesses and strengths and areas that need investment, for instance additional health facilities, better health information systems, or better trained human resources. Health financing is also critical for reaching universal health coverage (UHC) defined as all people obtaining the quality health services they need without suffering financial hardship (SDG 3.8). The data on out-of-pocket spending is a key indicator with regard to financial protection and hence of progress towards UHC."	6%
	Current Health Expenditure per Capita	"Current expenditures on health per capita in current US dollars. Estimates of current health expenditures include healthcare goods and services consumed during each year."	8%
	Current Health Expenditure (% of GDP)	"Level of current health expenditure expressed as a percentage of GDP. Estimates of current health expenditures include healthcare goods and services consumed during each year. This indicator does not include capital health expenditures such as buildings, machinery, IT and stocks of vaccines for emergency or outbreaks."	7%
	Burden of Disease	"Disability-Adjusted Life Years (DALYs) per 100,000 individuals from all causes. DALYs measure the total burden of disease – both from years of life lost due to premature death and years lived with a disability. One DALY equals one lost year of healthy life."	2%

Source: Own illustration based on the sources that can be found in the "Country Selection" Excel file and are accessible via hyperlink per variable

Appendix 6: Data Standardization Formula

$$x'_{ij} = \left[\frac{x_{ij} - min_i}{R_i} * (99)\right] + 1$$

where:

x'_{ij} is the scaled final value of country j on dimension for i;

x_{ij} is the average score of country j on dimension i;

min_i is the minimum value for dimension i;

R_i is the range of dimension i.

Source: based on "Advanced Strategy" course content, Fall Semester 2021/2022 at Nova SBE

Appendix 7: Inverted Data Standardization Formula

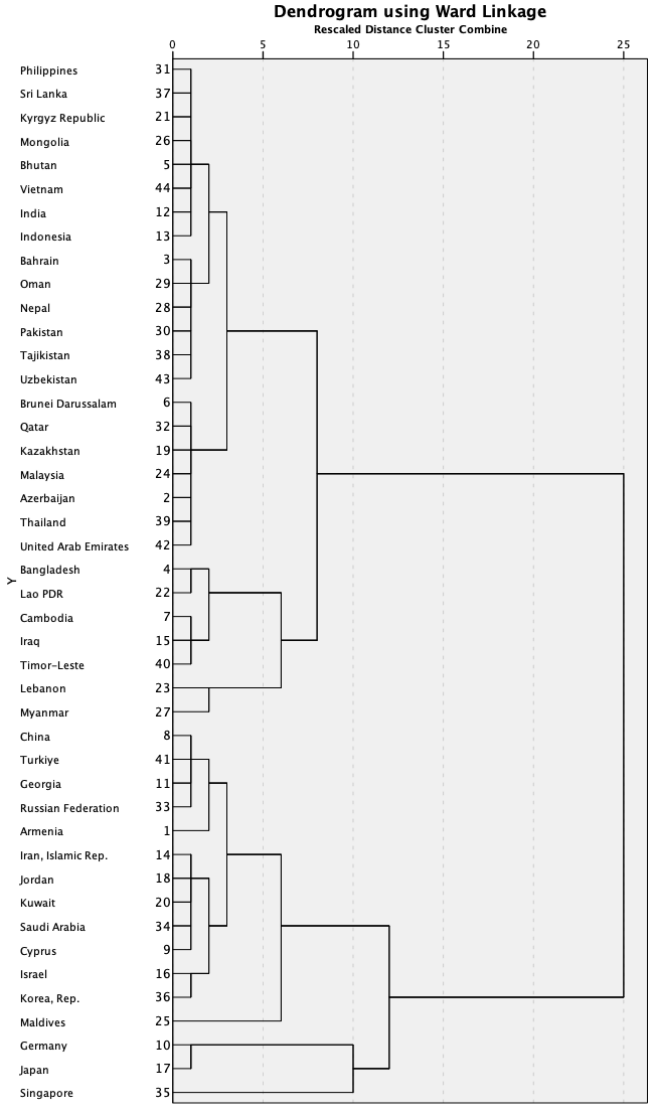
$1 - (x'_{ij})$

where:

x'_{ij} is the Data Standardization Formula

Source: based on "Advanced Strategy" course content, Fall Semester 2021/2022 at Nova SBE

Appendix 8: Country Clustering Dendogram



Source: Retrieved from SPSS, can be found in the "Output Country Clustering" file

Appendix 9: Quantitative Research Questionnaire

1. In which country do you live?

- Malaysia
- Thailand
- Indonesia
- Other

2. Do you live in an urban or rural area?

- Urban area (>50.000 inhabitants)
- Rural area (<50.000 inhabitants)

3. How often do you buy prescription drugs?

- At least once a week
- At least once a month
- At least twice a year
- At least once a year
- Other:

Generic drugs are chemical replicas of the original brand and contain the same active ingredients. Generic medicine are less expensive than brand-name ones.

4. Does your doctor (or pharmacist) more often advise you to buy generic medicine than branded medicine?

- Yes
- No
- I don't know

5. To what extent do you agree or disagree with the following statement?
"I trust the motives and goals of pharmaceutical companies."

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

6. Which aspects impact your perception of trust towards the pharmaceutical industry? Tick all that apply.

- Prices
- Intentions of the industry
- Doctor's opinion
- Own experience or experience of family and friends
- Degree of transparency on clinical research data
- Potential cooperation with government
- Public reputation
- Other:

7. In your opinion, how trustworthy are small pharmaceutical companies on a scale from 1 (not trustworthy) to 5 (very trustworthy)? Here, small pharmaceutical companies are companies with less than 250 employees.

0 1 3 4 5

Trustworthiness

8. In your opinion, how trustworthy are big pharmaceutical companies on a scale from 1 (not trustworthy) to 5 (very trustworthy)? Here, big pharmaceutical companies are companies with more than 250 employees.

0 1 2 3 4 5

Trustworthiness

9. In your opinion, how trustworthy are local pharmaceutical companies on a scale from 1 (not trustworthy) to 5 (very trustworthy)?

0 1 2 3 4 5

Trustworthiness

10. In your opinion, how trustworthy are international pharmaceutical companies on a scale from 1 (not trustworthy) to 5 (very trustworthy)?

0 1 2 3 4 5

Trustworthiness

11. In your opinion, how trustworthy are European pharmaceutical companies on a scale from 1 (not trustworthy) to 5 (very trustworthy)?

0 1 3 4 5

Trustworthiness

12. Which European countries do you trust the most regarding pharmaceutical expertise? (Selection of two maximum)

- France
- Germany
- Italy
- Spain
- UK
- I don't know

13. Since COVID 19, did your perception of trust regarding the pharmaceutical industry change?

- Yes, more trust-worthy image
- Yes, less trust-worthy image
- No, same perception
- Other:

14. When deciding on a pharmaceutical brand/product, which factors influence your choice? Tick all that apply.

- Price
- Reputation of brand
- Doctor's recommendation
- Country of origin of brand
- Country of manufacture of product
- Efficacy of consumer research data
- Transparency on clinical research data
- Transparency of production process
- Other:

15. What could increase your trust in pharmaceutical companies? Tick all that apply.

- More publicly available information about safety and efficacy
- Lowered drug prices
- Transparency on clinical research data
- Transparency of production process
- Marketing activities
- Other:

16. How old are you?

- <15 years
- 15-29 years
- 30-44 years
- 45-54 years
- 55-64 years
- >65 years
- Prefer not to say

17. What gender do you identify with?

- Male
- Female
- Non-binary / diverse
- Prefer not to say

Appendix 10: Profiles of Experts

Click here to access the link to all expert interview transcripts.

Expert	Profile
Expert 1 (E1) **Maximilian Rödder**	Company: Simon-Kucher & Partners Role/Position: Senior Director, Healthcare and Lifesciences Country of residence: Germany Expertise: • Pharmaceutical industry in Germany, Europe, and basic knowledge of Asian markets
Expert 2 (E2) **Uwe Hurth**	**Company:** Ursapharm Arzneimittel GmbH **Role/Position:** Area Manager Asia & Pacific **Country of residence:** Germany **Expertise:** • Pharmaceutical industry in Germany and Asia Pacific region; MIT • Partnership Development and Market Entry
Expert 3 (E3) **Ying Chen**	**Company:** Bayer **Role/Position:** Head of Commercial Operations Asia Pacific **Country of residence:** Singapore **Expertise:** • Pharmaceutical industry in Asia Pacific; MIT • Marketing & Sales, Commercialization and Market Access
Expert 4 (E4) **Anna Hein**	**Company:** Midas Pharma GmbH **Role/Position:** Launch Manager **Country of residence:** Germany **Expertise:** • Pharmaceutical industry in Germany, Europe, and basic knowledge of Asian markets • Pharmaceutical background and Supply Chain and Launch Management
Expert 5 (E5) **Jan Weiser**	**Company:** Simon-Kucher & Partners **Role/Position:** Managing Partner**,** Healthcare and Life Sciences **Country of residence:** Singapore **Expertise:** • Healthcare and Life Sciences in SEA, China, and Australia/New Zealand; MIT • Consulting national and international clients in strategy, pricing, and sales
Expert 6 (E6) **Joshua Siow**	**Company:** Simon-Kucher & Partners **Role/Position:** Director, Healthcare and Life sciences **Country of residence:** Singapore **Expertise:** • Healthcare and Life Sciences in APAC; MIT
Expert 7 (E7) **Jamaludin Elis**	**Company:** Chulia Pharma Sdn Bhd **Role/Position:** CEO **Country of residence:** Malaysia **Expertise:** • Pharmaceutical industry in Malaysia and basic knowledge of Thailand's and Indonesia's market • Overall commercial activities involving Marketing Strategies, Market Penetration and Market Expansion
Expert 8 (E8) **Renaat Janssen**	**Company:** Alvogen **Role/Position:** Executive Vice president APAC **Country of residence:** Thailand **Expertise:** • Pharmaceutical industry in APAC; MIT

	• Market Entry Strategy, Business Process Improvement and Implementation In-dept Knowledge Asia
Expert 9 (E9) **Low Jin Ren Max**	**Company:** Teraju Pharma Malaysia **Role/Position:** Group CEO **Country of residence:** Malaysia **Expertise:** • Pharmaceutical industry in Malaysia • Corporate Strategy, International and Domestic Business Development
Expert 10 (E10) **Simone Lee**	**Company:** Tigas Alliance **Role/Position:** Founder and CEO **Country of residence:** Malaysia **Expertise:** • Pharmaceutical industry in Malaysia • Pharmacy Healthcare industry, Go to Market Channel Strategy and Marketing Advisory
Expert 11 (E11) **Liew Shaw Kang**	**Company:** Zuellig Pharma **Role/Position:** Senior Brand Manager - Consumer Healthcare **Country of residence:** Malaysia **Expertise:** • Pharmaceutical industry in Malaysia • Consumer Healthcare, Market Conditions and Customer Buying Habits
Expert 12 (E12) **Anonymous Interviewee**	**Company:** Self employed **Role/Position:** Independent Consultant, Pharma and Healthcare **Country of residence:** Indonesia **Expertise:** • Pharmaceutical industry in Indonesia and basic knowledge of Thailand's and Malaysia's market • Market Access, Business Development and Regulatory Requirements
Expert 13 (E13) **Anonymous Interviewee**	**Company:** AstraZeneca Indonesia **Role/Position:** Director, Market Access, Government Affair and Regulatory Affair **Country of residence:** Indonesia **Expertise:** • Pharmaceutical industry in Indonesia • Market Access, Manufacturing, Supply Chain and Commercial and External Affair
Expert 14 (E14) **Anonymous Interviewee**	**Company:** **Role/Position:** Supply Chain Consultant **Country of residence:** Hongkong SAR **Expertise:** • Pharmaceutical industry in Thailand and Indonesia and basic knowledge of Malaysia's market • Supply Chain Optimization & Transformation
Expert 15 (E15) **Benjamin Hadsik**	**Company:** Zuellig Pharma **Role/Position:** Vice President and Head of Strategic Partnerships & Business Development **Country of residence:** Thailand **Expertise:** • Pharmaceutical industry in Thailand • Strategic Marketing and Business Development

Appendix 11: Discussion Guides for Expert Interviews

Discussion Guide 1: German Pharmaceutical Companies Active in Asia

1. Interviewee Introduction

1. Could you please briefly introduce yourself, your role in the company etc.?

2. Healthcare Sector and specifically Pharma Industry

2. What are the biggest opportunities in the healthcare and pharma industry, especially for German companies?
3. What are the biggest risks in the healthcare and pharma industry, especially for German companies?
4. How will the pharma industry develop in the next 10-20 years?
5. How would you describe the expertise of the German pharma industry? What makes it so special?

3. Business Activities in Asia

6. Did you expand to an Asian country/countries? If yes, which one(s) specifically? When did you decide to expand? // What type of strategy/mode of entry are used when entering the Asian markets? And why?

3.1 Country Choice & Reasoning

7. What were your motives to expand to Asia? Why did you choose this specific country/these countries?
8. How would you describe the current development, growth potential and challenges in this country?

3.2 Entry Mode

9. Which type of strategy/mode of entry did you use when entering the “foreign market”? And why?

3.3 Market Entry Process

10. What are in your opinion the main advantages/opportunities of expanding your business to Asia/MIT?
11. What challenges did your company expect before the internationalization? What are/were actual challenges that your company experienced?

12. What are main barriers when entering Asian countries/MIT?

3.4 Legal/Regulative Processes

13. What are some of the legal requirements and regulations that you faced when expanding to Asia/MIT?

3.5 Competitive Landscape

14. How would you describe the current competitive landscape in MIT? How dense is the pharmaceutical competition? What are the main competitors?
15. Do you have insights about foreign competitors? (Company names, intensity/density)

3.6 Distribution (Local Contacts)

16. Could you give us an overview about your supply chain process in Germany? And how it is in Asia/MIT?
17. Can you tell me about your relationship with local business partners in Asia/MIT and how you approached them?
18. Can you tell me about your relationship with further local contacts in Asia/MIT and how you approached them? E.g. public authorities, government, administration etc.

3.7 Cultural Differences

19. Did you face issues regarding cultural differences? If yes, what was the impact and how did you approach the cultural differences?

3.8 Perceived Opportunities & Risks

20. What are the main opportunities for German pharmaceutical SMEs in Asia? (specifically Malaysia/Indonesia/Thailand)
21. What are the main risks for German pharmaceutical SMEs in Asia? (specifically Malaysia/Indonesia/Thailand)
22. What are main barriers for German SMEs to enter Asian countries? (specifically Malaysia/Indonesia/Thailand)
23. What advice would you give to German pharmaceutical SMEs trying to expand to Asia? (specifically Malaysia/Indonesia/Thailand)
    How would you approach an expansion project to Asia as a German pharmaceutical SME?

Discussion Guide 2: Local Companies With Origin in MIT

1. Interviewee Introduction

1. Could you please briefly introduce yourself, your role in the company etc.?

3. Healthcare Sector and specifically Pharma Industry

2. What are the biggest opportunities in the healthcare and pharma industry?
3. What are the biggest risks in the healthcare and pharma industry?

4. Business Activities in MIT

4. How would you describe the development of the pharma industry in the last 10 years? And how is the current situation in MIT?
5. What are the main strengths of the MIT pharmaceutical industry?
6. What are the main challenges of the MIT pharmaceutical industry?

4.1) Competitive Landscape

7. How would you describe the current competitive landscape in MIT? How dense is the pharmaceutical competition? What are the main competitors?
8. Do you have insights about foreign competitors? (Company names, intensity/density)

4.2) Supply Chain

9. Could you give us an overview about your supply chain process in MIT?

4.3) Distribution (Local Contacts)

10. Can you tell me about your relationship with local business partners in MIT. What advice would you give foreign companies when approaching local business partners?
11. Can you tell me about your relationship with further local contacts in MIT and how you approached them? E.g. public authorities, government, administration etc. What advice would you give foreign companies when approaching local contacts?

4.4) Starting a Business in MIT

12. Do you have any insights about starting a pharmaceutical business in MIT? What advice can you give foreign pharma companies when entering the MIT market?
13. What are some of the legal requirements and regulations that you faced when starting your business in MIT?

4.5) Perceived Opportunities & Risks

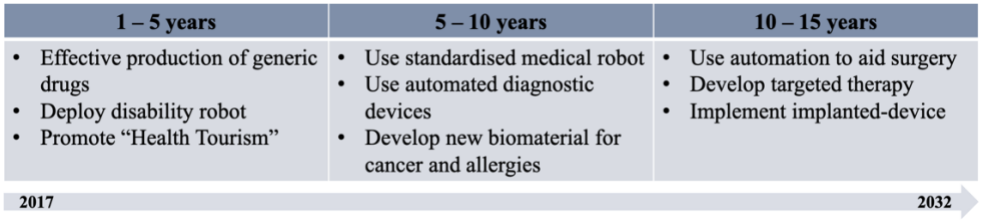
14. What are the main opportunities for foreign pharmaceutical SMEs in MIT?
15. What are the main risks for foreign pharmaceutical SMEs in MIT?
16. What are main barriers for foreign SMEs to enter MIT?
17. What advice would you give to foreign pharmaceutical SMEs trying to expand to MIT?

Appendix 12: Healthcare Expenditure Thailand 2019 – 2021

	2019	2020	2021
Total health expenditure (in millions USD)	17,984.02	18,163.88	18,706.98
Total health expenditure as % of GDP	3.8	4.1	4.1
Public health expenditure – Total (in millions USD)	13,434.71	13,563.71	13,984.19
Private health expenditure – Total (in millions USD)	4,549.31	4,600.18	4,722.82
Private health expenditure – Out of pocket (in millions USD)	1,559.15	1,576.46	1,625.47

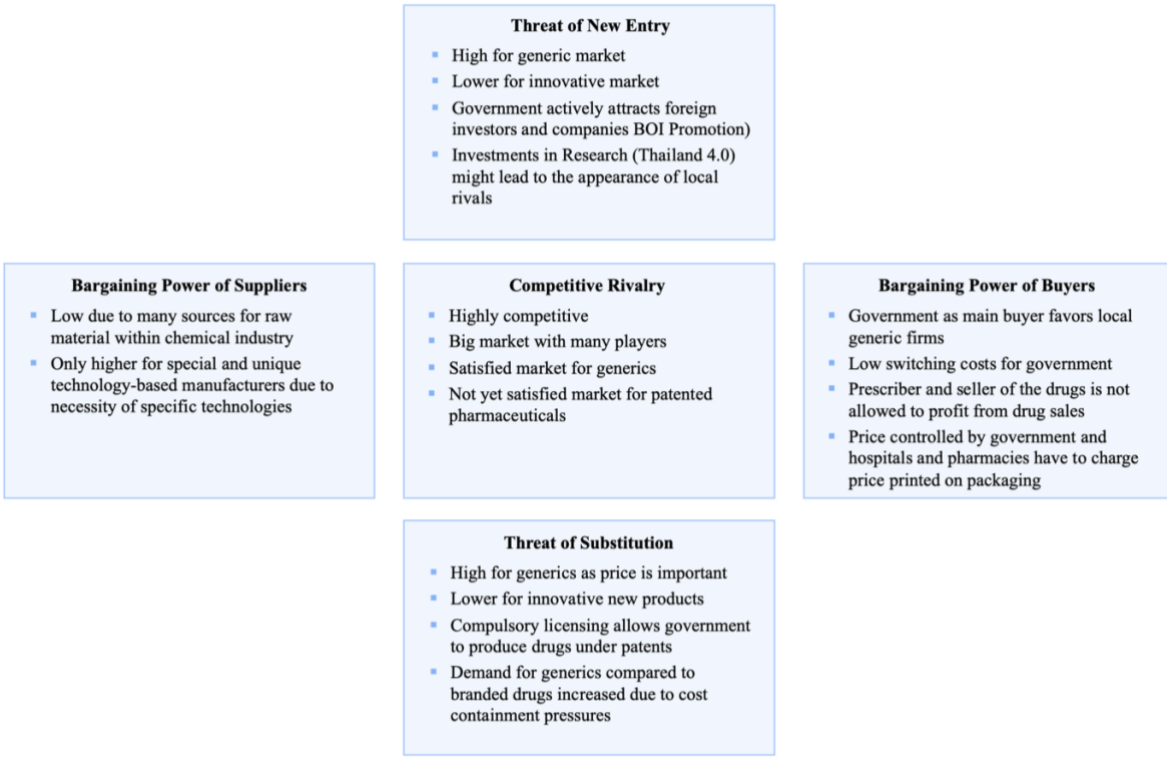
Source: Own illustration based on (GlobalData 2022c, 26)

Appendix 13: Thailand 4.0



Source: Own illustration based on (PwC 2017)

Appendix 14: Porter's Five Forces for Thailand

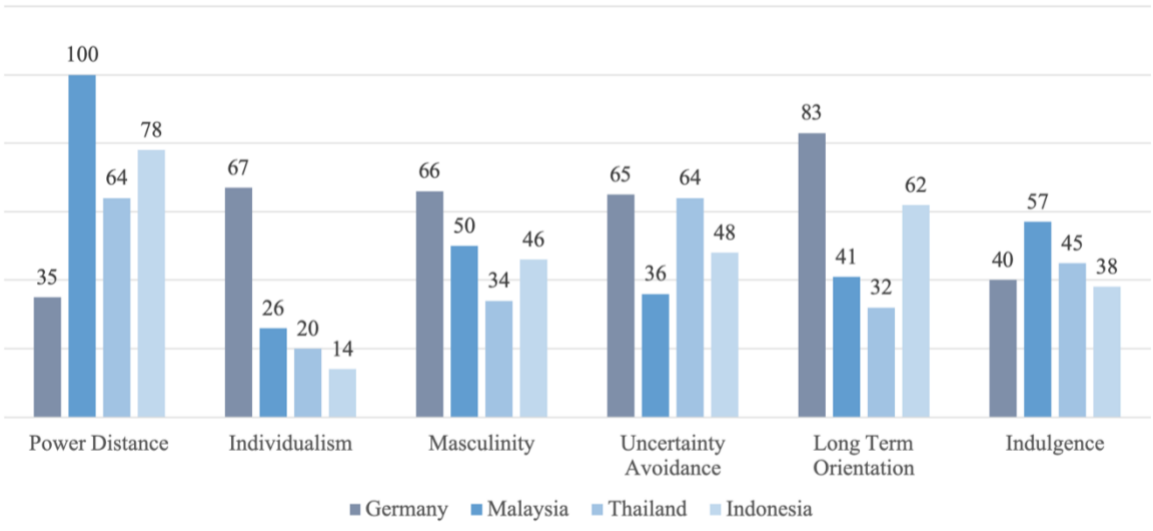


Source: Own illustration based on literature review and findings of expert interviews

Appendix 15: Further Overarching Findings of Expert Interviews

Expert	Overarching Findings
E1	E1 goes into more detail about what sets German SMEs apart. The first factor E1 mentions is that many German SMEs are family-owned, citing Boehringer Ingelheim and Merck as examples. The main advantage of family-owned businesses is their long investment horizon and their ability to make long-term strategic decisions, as they are not required to produce quarterly reports. According to E1 this can be a competitive advantage of German pharmaceutical SMEs since development cycles in the pharma industry are very long. Another factor highlighted by E1, which is also consistent with the literature analyzed, is the scientific expertise of Germany, which has a strong scientific community that provides great competition to the US. Also worth mentioning here is the vaccine expertise, which due to the pandemic has been strengthened in Germany by for example BioNTech. Moreover, it is critical for German firms to develop a solid hypothesis regarding possible political and economic developments in the long run. More specifically, E1 recommends learning the lessons from past developments within the pharmaceutical industry in MIT to be prepared for future eventualities. E1 explains that the understanding of both the revenue side and the cost side of business can be tough in MIT. The revenue side involves due diligence. The cost side means making estimations of needed investment, upcoming costs and expected price levels and sales volume.
E2 & E5	Moreover, E2 and E5 indicate the waiting time for responses of the local authorities can take a long time and is oftentimes vaguely stated. Furthermore, an evaluation of the respective culture and potential cultural differences is essential in choosing the right market.
E3	Furthermore, E3 stresses that showing clear commitment to the MIT region, having "the right level of ambition" and adapting an "investment mindset" is crucial to be able to cope with the market access and commercialization related challenges. E3 states that the entry mode and success in SEA markets does less depend on the size of the company but more on the type of product portfolio and competitive advantage. However, despite whether competing on a lean production cost model or unique research capabilities it is highlighted that, when focusing on a generic portfolio, scaling plays a more important role compared to a focus on an innovative portfolio. In this case, companies might only need one or two products, if they are "blockbusters".
E8	According to E8, „in all of the markets, there was a threat to go to self medication. Everyone became Dr. Google, you saw amazing trends, in food supplements, and vitamins, those kinds of things. And you saw a drop of people becoming compliant in taking their doses that they need to take on a daily base. So they saw reduction, you saw a reduction in people going to the hospitals."

Appendix 16: Hofstede Cultural dimensions - Comparison of Germany with MIT



Source: Own illustration based on (Hofstede Insights 2022)