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

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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, Indonesia

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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 2022d). 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 2020b, 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 2021m). 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 2021i; 2021d). 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).

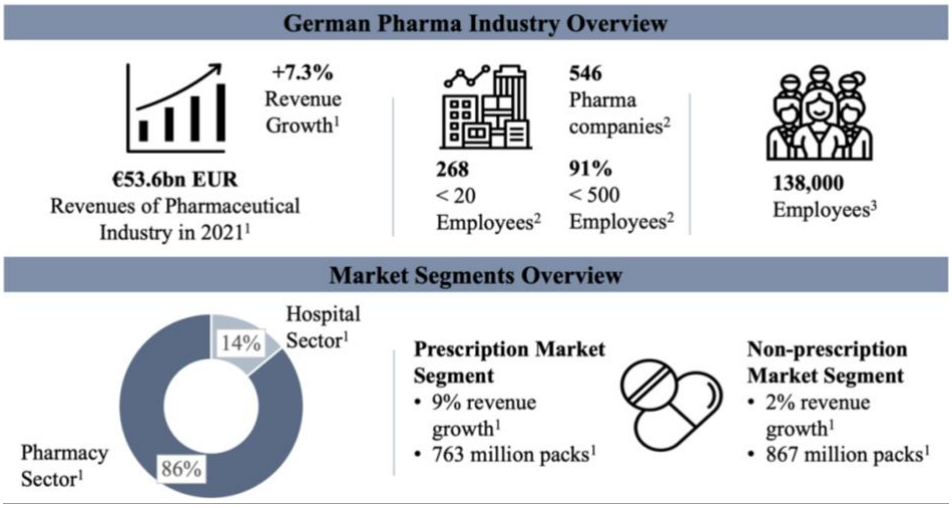

Figure 1: German Pharmaceutical Industry Overview, Source: Own illustration based on (IQVIA 2022b, 7)[1], (BPI 2021, 6–7)[2], (ZEW 2021)[3]

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).

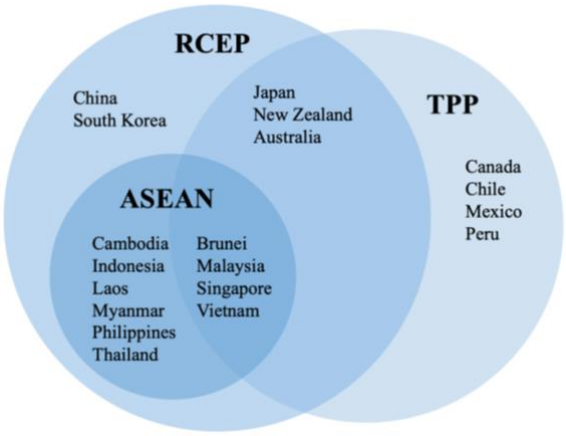

Figure 2: Free Trade Agreements in Asia, Source: Own illustration based on (Carlson et al. 2021, 110)

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 2022d; 2022f; 2021h; 2019i; 2019c; 2019a; 2019g; 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 2021k; 2021o; 2021l).

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 2022g). 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 2021j; 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 2021n).

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.

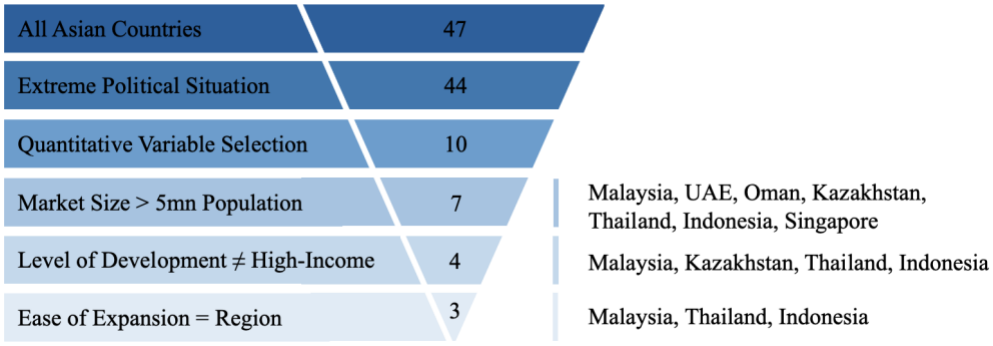

Figure 6: Country Selection Funnel, Source: Own illustration based on filters used for country selection

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 Malaysia, Thailand and Indonesia

The following chapter analyzes the pharmaceutical industries of Malaysia, Thailand and Indonesia separately. It consists of insights from literature as well as qualitative research.

5.1 A. Hanfmann – Examination of the Pharmaceutical Industry in Malaysia

This chapter was analysed by Annika Hanfmann, due to the Nova SBE guidelines this part had to be excluded.

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

This chapter was analysed by Jana Menn, due to the Nova SBE guidelines this part had to be excluded.

5.3 S. Mitocaru – Examination of the Pharmaceutical Industry in Indonesia

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

5.3.1 Political, Economic and Socio-Cultural Conditions

Indonesia is the largest SEA country, consisting of more than 17,000 islands, various ethnic groups, and economies. Java, Madura, and Bali are the three most populated islands (60% of the population), accounting for 7% of Indonesia's area (Witt 2021, 3).

Indonesia is categorized as a presidential republic in which the president, currently Jokowi, who is directly elected and can serve for up to two five-year terms, is both head of state and head of government (CIA 2022). According to OECD, Indonesia's political risk is rated as medium with 3 out of 7 points (OECD 2022). Indonesia is a founding member of the ASEAN, APEC, and EAS (Witt 2021, 3), forms part of the UN and WTO and is the only SEA country comprising part of the G20 (CIA 2022). However, corruption is a very present issue in several institutions. This is confirmed by the Corruption Perception Index, which scores 38 out of a possible 100 (96th worldwide) (Transparency International 2021).

16th largest economy and biggest economy in SEA, with a GDP of $1.19tn USD and GDP per capita of $4,292 USD (World Bank 2021e; 2021g).	**By 2050, Indonesia is expected to be the 4th largest economy**, ahead of countries such as Japan, Germany, and the UK (PwC 2017).
3.7% GDP growth rate in 2021. Projection for 2022 is 5.1% and for 2023 it is 5.3% (World Bank 2022c).	**Leading industries** are oil & gas, textiles, automotive, hospitality, mining, and agriculture (CIA 2022).

Figure 7: Economic Key Facts Indonesia, Source: Own illustration

Since the Asian financial crisis in 1997, the economy has grown significantly and is expected to continue to grow, as shown in Figure 7. However, according to the World Bank Director of Indonesia, significant downside risks from ongoing global developments could harm Indonesia's long-term recovery (World Bank 2022a). Regarding purchasing power parity, it is the 10th largest economy (World Bank 2022e) with domestic consumption accounting for 56% of GDP in 2021 (World Bank 2022b). Indonesia is one of the Velocity 12 markets with a powerful middle-class growth potential (Ogilvy 2016, 9–12). Moreover, prior to the pandemic,

in 2019, Indonesia had reduced its poverty rate by more than half from over 23% in 1999 to 9.4% (in 2020, 9.8%), making significant progress in fighting poverty (World Bank 2020d).

After China, India, and the US, Indonesia is the fourth most populated country in the world with 276 million people, expected to rise to 294 million by 2030 and 312 million by 2040 (Statista 2022e). With around 87% of the population, it has the largest Muslim population worldwide, 10% are Christian, and 1.7 % are Hindus (CIA 2022). In terms of ethnic and linguistic variety, it is one of the most diverse countries, with more than 300 ethnic groups (World Bank 2022e) and over 700 languages spoken (CIA 2022).

5.3.2 Healthcare Sector Overview

In recent decades, Indonesia's healthcare sector has improved significantly, with life expectancy increasing from 66 years in 2000 to 72 years (74 years for women, 70 years for men) in 2020 (World Bank 2020c; 2020a; 2020b). Total expenditure on healthcare amounted to $33bn USD in 2021 (see Appendix 12 for further information) (GlobalData 2022a, 18), and the current health expenditure per capita doubled from $64 USD in 2009 to $120 USD in 2019 (World Bank 2019d). However, it is still remarkably low compared to its neighboring countries, such as Thailand with $296 USD and Malaysia with $437 USD (World Bank 2019f; 2019e). The total health expenditure as % of GDP increased slightly from 2.6% in 2009 (World Bank 2019b) to 3.1% in 2021 (GlobalData 2022a, 18). In Figure 8, the evolution of health expenditure from 2009 to 2019 is visualized.

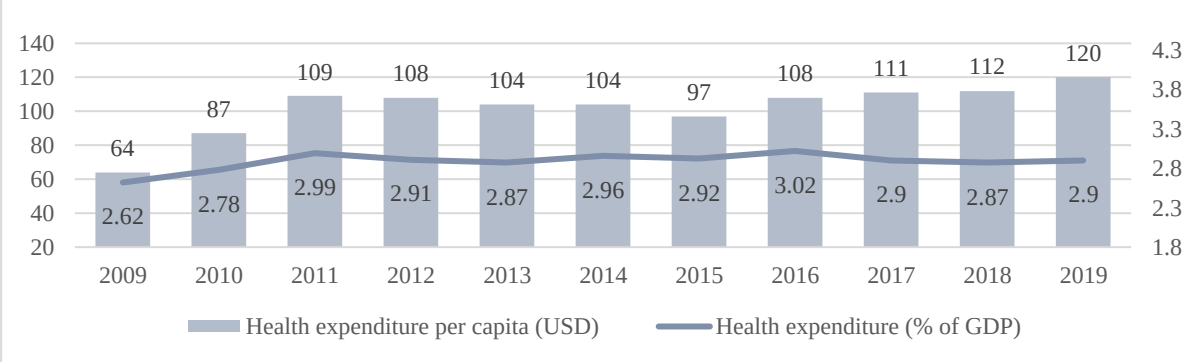

Figure 8: Health Expenditure in Indonesia, Source: Own illustration based on (World Bank 2019d) and (World Bank 2019b)

Considering international levels, the out-of-pocket expenditure on healthcare is very high, accounting for 34.1% of total healthcare expenditure in 2021 (GlobalData 2022a, 17).

In 2014, the Jaminan Kesehatan Nasional (JKN), Indonesia's universal healthcare program, was launched by the Social Security Administrator BPJS Kesehatan, making basic medical care and facilities available for the Indonesian population (EIBN 2017, 10–11). However, the ambitious target of achieving universal health coverage by 2019 was missed as participation rates were lower than expected (Pratiwi et al. 2021, 1). Nowadays, JKN is one of the largest national health insurance programs worldwide, covering more than 235 million people, representing 85% of the Indonesian population (Nurhayati-Wolff 2022a).

The pandemic has further highlighted the challenges faced by the healthcare system. The government has significant difficulties in fulfilling the minimum tasks in the health sector due to a lack of infrastructure and a shortage of specialists (Pratiwi et al. 2021, 1–3). Key indicators such as the ratio of hospital beds, 1 bed per 1,000 people in 2017 (World Bank 2017a), and physicians, 0.5 physicians per 1,000 people in 2019 (World Bank 2019j), have increased in recent decades but remain below the World Health Organization (WHO) standards.

Moreover, the uneven distribution of healthcare infrastructure is a major problem, leading to an over-concentration of doctors and hospitals in urban areas. In contrast, supply in rural areas remains low, leaving these areas underserved. Accordingly, the difference in life expectancy between urban and rural areas is 15 years (Oliver Wyman 2018, 6). Furthermore, Indonesia struggles with inadequate health-related knowledge and preventive medicine and continues to face a high prevalence of communicable, maternal, and nutritional diseases (Oliver Wyman 2018, 6). Remarkably, the country's maternal mortality ratio, estimated at 177 per 100,000 births in 2017, continues to be a significant problem (World Bank 2017b). Even though it decreased from 1990 to 2019 by 35% (Roser, Ritchie, and Spooner 2021), Indonesia's burden of disease is still high and affects economic growth for example through reduced efficiency and

productivity of the workforce (PwC 2020a, 3). The productivity loss to disease is estimated at around 30% of GDP annually, with losses from NCDs at $202bn USD and from communicable diseases at about $101bn USD (Oliver Wyman 2018, 4). Over 42% of the economic loss due to NCDs and communicable diseases is avoidable (Oliver Wyman 2018, 5). Currently, a comprehensive transformation plan is being developed as part of the government's efforts to strengthen the healthcare infrastructure (IQVIA 2022a, 85).

While the public healthcare sector is developing but still facing significant challenges, the private healthcare sector remains important and owns a large share of the healthcare market. According to GlobalData, over 51% of healthcare expenditure is financed by private sources (GlobalData 2022a, 17), showing the inequality and access issues the healthcare sector is facing.

5.3.3 Analysis of the Pharmaceutical Industry

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

5.3.3.1 Status Quo

Being one of the most populated countries and fast-growing economies, Indonesia is a promising location as it has the largest pharmaceutical market in SEA, with a value of around $12bn USD in 2021 (GlobalData 2022a, 18). The annual growth rate amounted to about 5% from 2020 to 2021 and is projected to reach 6.1 % in 2022 (GlobalData 2022a, 25). Around 14% of total pharmaceutical expenditure accounts for public spending, while 86% accounts for private spending (WHO 2018, 16). Moreover, the pharmaceutical expenditure per capita amounted to $103.9 USD in 2020, which is relatively low compared to Thailand or Malaysia (Statista 2022b). As noted by Fitch Solutions, the pharmaceutical market will reach a value of $16bn USD by 2024 (Statista 2022c). This growth can be explained not only by the immense population growth but also by the increased awareness of people to health and well-being and by the easier accessibility to healthcare through the implementation of the JKN. This positive

development will be funded through a higher healthcare budget in the future (Cabinet Secretariat of the Republic of Indonesia 2021).

Overall, the market is divided into approximately 60% prescription medicines and 40% OTC medicines. The generic segment accounts for the market's largest part (by volume) and remains the most attractive segment (Medina 2020). This circumstance has been exacerbated by the government, which increased the sales of generic drugs since the implementation of the JKN, and by the MOH, which puts as big majority generic drugs on the national formulary (Medina 2020). In terms of value, branded drugs accounted for over 56% of pharmaceutical sales in 2021, with a year-on-year growth of 5% (GlobalData 2022a, 25).

5.3.3.2 Market Entry Conditions

Competitive Landscape

The Indonesian market comprises 214 pharmaceutical companies (GlobalData 2022a, 28). In terms of competition, the market is highly fragmented and consists of multinational and domestic companies, with no major players fully controlling the market. The primary business of domestic companies is generic medicines, which have low production costs, while that of MNCs is patented medicines, which provide the Indonesian population access to innovative, high-quality treatments. Out of the top 10 companies by market share, nine are domestic, such as Dexa Medica, Sanbe Farma, Kalbe Farma, and Kimia Farma (see Appendix 13) (Britton, Koseki, and Dutta 2018, 25–27). Multinationals with facilities in the country include, for example, Novartis, Bayer, Pfizer, and Sanofi (Britton, Koseki, and Dutta 2018, 21). Overall, foreign companies hold around 30% of the market share, while domestic firms claim 70% of the total market (GlobalData 2022a, 28).

Moreover, the industry is unfavorable to innovative pharmaceutical manufacturers due to a lack of highly skilled scientists, low investment in R&D, and regulatory issues with enforcing patents and IP protection (Medina 2020). Therefore, MNCs typically import their patented medicines to Indonesia and distribute them there without producing them on-site. In 2021,

Indonesia imported $4.4bn USD in pharmaceutical products, an increase of around $3.2bn USD compared to 2020 (Nurhayati-Wolff 2022c). The largest importers of pharmaceutical products to Indonesia are China, the US, Belgium, Spain, India, and Germany (Nurhayati-Wolff 2022d). In contrast, Indonesia exported only $556mn USD worth of pharmaceutical products in 2021, with the Philippines, Singapore, India, Nigeria, and Japan accounting for the highest export value (Nurhayati-Wolff 2022b).

In this context, it is crucial to mention Indonesia's high dependency on foreign raw material suppliers. More than 90% of raw materials are imported, mainly from China and India, causing increased production costs (OECD 2018, 6). Since Indonesia is home to around 30,000 to 40,000 plant species accounting for at least 80% of medicinal plant species in SEA, local and foreign investors and companies could make use of Indonesia's own raw materials (Cahyaningsih, Magos Brehm, and Maxted 2021, 2019). The Indonesian government withdrew its foreign ownership restriction for manufacturers of raw materials in 2016, encouraging more foreign investments in the raw materials business (see Table 7 in the *Ownership Equity* section).

Regulation Process

The National Agency of Drug and Food Control (NADFC) is Indonesia's pharmaceutical regulations authority. Its main responsibilities include managing the registration process for drugs, regulating their production, distribution, and utilization, and granting drug approvals as marketing authorization licenses. The NADFC ensures the safety, quality, and efficacy of medicines in Indonesia. All drugs must be registered with the NADFC and comply with the ASEAN Common Technical Dossier format to receive a distribution license (WHO 2018, 16–17). The registration must be submitted via the Online Single Submission portal, which was introduced to facilitate the ease of doing business and investment in Indonesia, and needs to be performed by local companies based in Indonesia (Budiarti, Sirie, and Hamzah 2019). Consequently, foreign firms have two options to sell drugs: to partner with local firms or

establish local manufacturing (GlobalData 2022a, 3). The registration process can take up to 300 days, depending on the drug type and its novelty. The latter also influences the license fee, which ranges from 100,000 IDR ($6.4 USD) to 30mn IDR ($1,900 USD) per drug (Budiarti, Sirie, and Hamzah 2019).

Pricing and Reimbursement

Indonesia has no formal price control mechanisms for pharmaceuticals (GlobalData 2022a, 4). However, in the public sector, the MOH established several initiatives, such as the e-catalogue drug procurement system and the listing of medicines in the National Formulary (FORNAS), to regulate drug prices. Medicines for the JKN are selected according to the FORNAS, which serves as a guideline for health services in acquiring the required medications with the assurance that they are safe, of high quality, and at affordable prices (Satibi et al. 2022, 556). However, this list contains primarily generic drugs, which leads to low-price competition (Satibi et al. 2022, 556). For the procurement process, the e-catalogue system is used, which provides a list of medicines with the purchase prices and details and connects users (hospitals and health facilities) with manufacturers. Considering the public healthcare system, only prescriptive drugs listed in the FORNAS can be reimbursed for the prices listed in the e-catalogue (Satibi et al. 2022, 556).

Intellectual Property

In Indonesia, patents are regulated by the Patent Law, which was renewed in July 2016. According to the 2022 International IP Index, Indonesia has a score of 30.42%, which is one of the lowest in the SEA region (Pugatch and Torstensson 2022, 6). Indonesia faced significant problems with IP protection in the past, which particularly affected the pharmaceutical industry (GlobalData 2022a, 22). There is high uncertainty and concern about patent rights as the Indonesian law only protects locally manufactured medicines. Consequently, imported drugs forego patent protection and can be produced as generics by local companies (GlobalData

2022a, 3). Moreover, the government can exercise compulsory licensing, in which the license needs to be non-exclusive. The new law expands the scope of compulsory licensing, meaning that drugs with a current patent in Indonesia can be exported to other developing countries with unmet needs for that treatment (GlobalData 2022a, 22).

Ownership Equity

In the past, Indonesia had different protective regulations limiting foreign ownership in the pharmaceutical sector (Britton, Koseki, and Dutta 2018, 21). The previous foreign ownership cap for the pharmaceutical manufacturing business was at a maximum of 85%, which changed in 2021. Through the issuance of the Omnibus Law in 2020, approximately 76 previous existing regulations were withdrawn, representing the government's efforts to liberalize foreign investment and attract more investors (Pharma Boardroom 2021a). The "Negative Investment List" from 2016 was replaced by the "Positive Investment List," which now opens the pharmaceutical manufacturing business to 100% foreign ownership. Table 3 shows the changes in ownership equity.

Sector	Business	2016 Negative Invt. List	Positive Invt. List
Pharmaceutical manufacturing	Manufacturing raw materials for drugs	No restriction (before it was 85%)	No restriction
	Manufacturing of finished drugs	Foreign ownership of maximum 85%	No restriction
Pharmaceutical distribution	Distribution of raw materials for drugs	100% domestic ownership	No restriction
	Distribution of finished drugs	No restriction (but closed sector under MOH and NADFC unwritten policies)	No restriction
Pharmaceutical retail	Retail pharma business	100% domestic ownership	Reserved for CMSMEs

Table 3: Foreign Ownership Comparison in Indonesia, Source: Own illustration based on (Herbert Smith Freehills 2021)

Even though there is no restriction on the distribution of finished pharmaceutical products, unwritten policies of the MOH make it difficult for foreign investors to establish foreign-owned pharmaceutical product distribution companies in Indonesia (Herbert Smith Freehills 2021).

Ease of Doing Business

Indonesia is ranked 73rd among 190 countries according to the 2019 World Bank rating (World Bank 2019h). The overall score amounts to 69.6 out of 100, which increased by 1.4% points compared to 2020. In fact, the necessary time to start a business and be allowed to operate formally can vary significantly from region to region. In Jakarta, it takes about ten days, while in Surabaya, it takes around 22 days, resulting in a poor rank of only 140th (World Bank 2021a). Figure 9 depicts the ten categories of the ease of doing business index and Indonesia's respective ranks. It should be noted that a low rank signifies a favorable position.

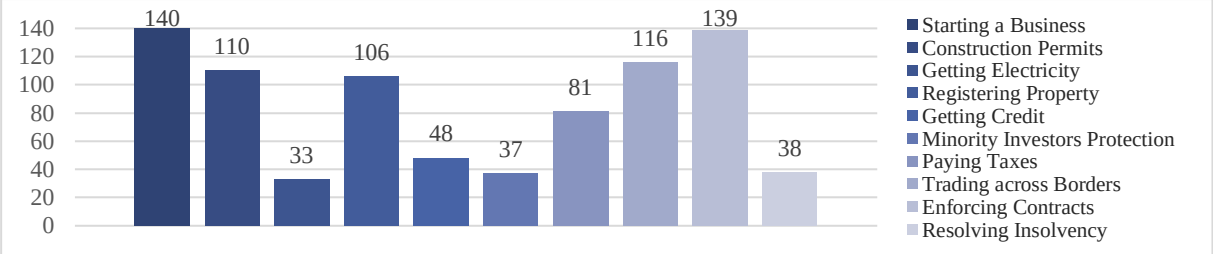

Figure 9: "Ease of Doing Business" Categories for Indonesia in 2021, Source: Own illustration based on (World Bank 2021a)

Tax Liability

Table 4 depicts the current tax rates for corporate income, branch profit, and VAT. The government also provides tax incentives for investors, such as tax holidays or tax allowances, and has improved the procedure for receiving tax incentives. The tax holiday is a policy of temporary tax exemption for newly established businesses (BKPM 2022). However, tax regulations can be ambiguous and inconsistent, leading to confusion (Zwaan 2022).

Quick Tax Facts	**Tax Rate**
Corporate Income Tax Rate:	
Gross income > 50bn IDR ($3.2mn USD)	22%
Gross income < 50bn IDR ($3.2mn USD)	50% reduction of CIT on initial gross income of 4.8bn IDR
Gross income < 4.8bn IDR ($310,000 USD)	0.5%
Branch Profit Tax Rate	20%
Value Added Tax As from 1 April 2022 As from 1 January 2025	10% 11% 12%

Table 4: Tax Liabilities in Indonesia, Source: Own illustration based on (Deloitte 2021, 108–10)

5.3.4 Qualitative Research Findings

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

5.3.4.1 Past Development and Current Situation

When asked about the development of the pharmaceutical industry in Indonesia, several respondents mentioned the tremendous economic growth and emphasized the growth of the pharmaceutical industry in the last decades (E13, E8, E12). According to E12, the government has been trying to push forward universal healthcare, aiming to cover almost the whole population. E13 tries to explain the development since the JKN by considering three dimensions: the population, the infrastructure, and the new demand for pharmaceuticals. Referring to the population dimension, E13 indicates that now with the JKN, the most critical and poor population has access to the healthcare system and facilities. Moreover, E13 argues that the healthcare infrastructure and workforce are growing immensely and showing significant progress. Ultimately, the JKN led to new demand for pharmaceuticals and, thus, new possibilities for pharmaceutical companies to supply the new patients who accessed the JKN. Considering the private sector, E13 emphasizes the tremendous growth of the middle- and upper-class population, which led to the remarkable growth of the private sector. In addition, Indonesia's private insurance sector is relatively small (E13).

5.3.4.2 Strengths and Challenges

Various experts highlighted the large pharmaceutical market size as a significant strength (E5, E12, E13). Due to the large population and the growing middle class, the purchasing power is huge (E5, E13). Furthermore, Indonesia has a very young population, with a high proportion of working-age people, resulting in increased economic growth (E13). E13 points out that the peculiarity of the Indonesian pharmaceutical industry is that it may serve as a suitable market for low, medium, and high technology. This is due to the large and heterogeneous population, which requires different medications for various population segments. Further, the government is putting much effort into improving the healthcare and pharmaceutical infrastructure (E13).

"Indonesia is where I think most multinationals are going to have a lot of challenges in the coming years. The JKN […] is mostly generics. And to be able to stay in that reimbursed segment, your pricing needs to be very, very low" (E3). E2 also highlights pricing system issues in the public sector, adding that this is a serious challenge, especially for innovative products, since a certain level of quality always requires a higher price. Furthermore, supply bottlenecks on the part of manufacturers due to the single-winner pricing system in the e-catalogue can lead to an inadequate supply of drugs to hospitals (E13). Considering the private healthcare sector, E13 underlines that prices to patients are very high due to missing price mechanisms.

Another challenge indicated by several experts (E2, E6, E3) is the unique geographic situation, which causes severe problems in distribution and inventory (E14). According to E2, distribution is more costly than in other countries due to the large territory, mainly because the local distributor must spread across the entire country. E3 points out that establishing an efficient commercial way to cover the islands with good marketing and sales team productivity is a serious challenge. Therefore, E14 suggests looking for partnerships rather than directly building own supply chains. In addition, E12 points out that one must consider the differences in facilities, transportation, and electricity between the various islands. This is especially true for medicines that require careful handling with temperature (E12). Related to challenges, it is also essential to mention the severe budget constraints of the Indonesian government regarding healthcare spending. Several experts emphasized that the government is still in the early stage of implementing the JKN, trying to provide care to as many people as possible and thus focusing on quantity rather than quality, leading to over-reimbursement for cheap drugs (E12, E3).

Lastly, Indonesia faces serious problems related to corruption and security (E14, E13), which strongly affect the pharmaceutical business. According to E14, security issues are more prevalent in rural areas and disputed territories that clans may control than in major cities. Therefore, it is recommended to choose small, local distributors who know the territories (E14).

5.3.4.3 Market Entry Conditions

Looking at the **competitive landscape** in Indonesia, several experts indicated that it is a special market due to its local manufacturing requirements (E8, E13). As a result, there are fewer foreign companies in Indonesia, e.g., from the EU or the US, than in other neighboring pharmaceutical markets. E12 gave examples of two pharmaceutical companies, Janssen and Sanofi Aventis, that have recently withdrawn their operations in Indonesia. Furthermore, in the past, not many Indian and Chinese companies were present in the Indonesian market. They only supplied the drugs or active ingredients and only worked with local partners. In contrast, many Indian and Chinese companies are now entering the market and establishing new production facilities. *"It seems like the western companies are now moving away from Indonesia. But they are going to be replaced by Chinese companies"* (E12).

Regarding the **regulatory environment** and **barriers to entry**, market access is classified as smooth and easily accessible (E2, E12). However, local government protection initiatives can be an obstacle. E13 underlines that it is necessary to check whether the drugs are already manufactured locally. In that case, one either needs to set up local manufacturing facilities or engage with existing local drug manufacturers. If a product is not already manufactured in Indonesia, one needs to partner with local pharmaceutical companies to register the product (E13). Moreover, obstacles such as cultural differences and differences in doing business should also be considered, resulting in the need for local employees with cultural expertise (E12, E13).

Considering **local contacts**, several experts suggest putting much effort into finding the right local partner to work with (E3, E8, E12, E13). Thus, it is crucial to not only focus on the largest distributors but also look for smaller ones with much expertise in specific areas (E14). In addition, E12 proposes starting with partnerships and then, after knowing the market and gaining valuable insights, trying to take on a more autonomous approach.

5.3.4.4 Opportunities and Risks for German SMEs

Regarding opportunities for German pharmaceutical SMEs in Indonesia and considering specific therapeutical areas, E13 highlights that the most significant opportunities in the coming years are in NCDs, such as diabetes, hypertension, cancer, stroke, and other cardiovascular diseases. Several experts mention the attractiveness of the population size as the most crucial factor (E3, E5, E6, E7, E12, E13). E12 argues that the 1% upper-class population is already bigger than that of Singapore. This demonstrates the market's great potential in purchasing power and that new opportunities will arise as the upper and middle classes grow (E5, E7). According to E7, the private sector represents a major opportunity for German pharmaceutical companies, as a substantial proportion of people can pay out of pocket. In fact, following E7's opinion, this group of people *is "mostly looking into more established brand names from western countries",* and the rest, who make up the vast majority of the population, is targeted by the cheap generics industry. E12 agrees and emphasizes that there is more potential for innovative drugs with high technology in the future, even though it will take time and the circumstances are not optimal yet. On the other side, E2 and E3 point out that the current circumstances of the pharmaceutical market in Indonesia are not favorable for innovative drugs since the *"local government perspective is more about making sure people have access to the basic essential medicines"* (E3). The latter is also accompanied by a certain acceptance risk of medicines in the JKN described by E3. Mainstream treatments are usually more readily accepted than, for example, a rare tumor type (E3). According to E3, entering the generics market can also be risky, as the public sector is dominated by low-price competition (E3, E12). Thus, German SMEs must be prepared to compete with Indian and Indonesian generic companies in terms of *"cost structure, ability to distribute, and promotion"* (E3). E13 argues that there are more opportunities for Asian companies than Western companies in the future, indicating the greater flexibility of Chinese and Indian companies. This also goes in hand with two exemplary high logistics risks that prevail in Indonesia: *"One is to ensure stable supply.*

The other is if you're completely importing, then you don't get treated equally as the other companies" (E3).

To conclude, Indonesia is experiencing strong growth and high future potential in the healthcare and pharmaceutical sector, driven by the continued expansion of the JKN and the government's efforts to improve these sectors. However, the pharmaceutical market faces severe challenges regarding regulatory inconsistencies, distribution, IP protection, low price levels, and corruption. Figure 10 summarizes the findings of the in-depth analysis of Indonesia. Furthermore, a Porter's Five Forces analysis for Indonesia can be found in Appendix 14.

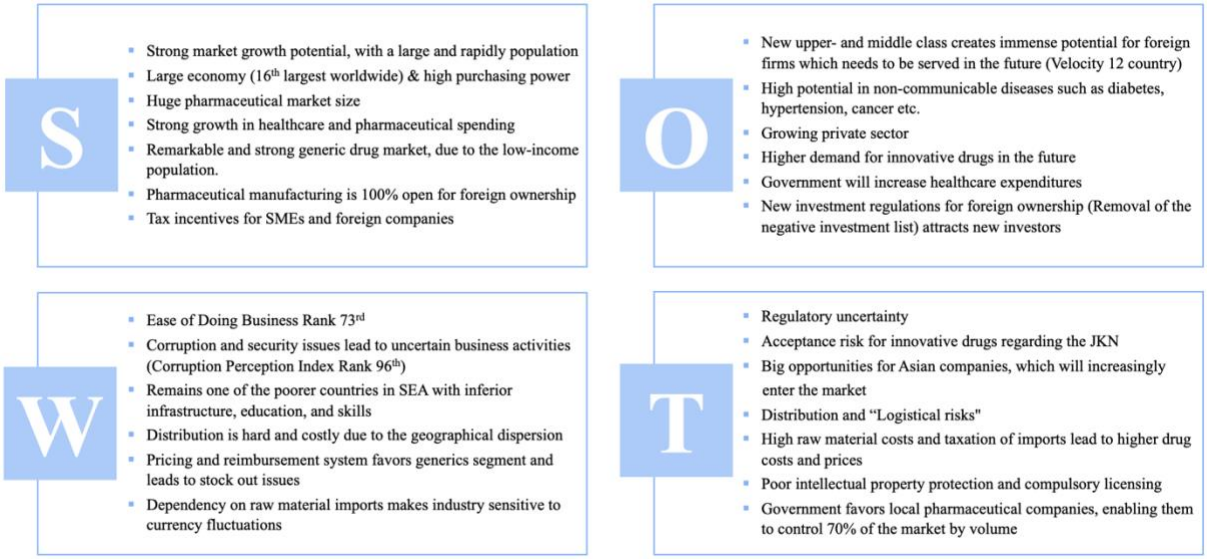

Figure 10: SWOT Analysis for Indonesia, Source: Own illustration based on literature review and findings of expert interviews

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[6]

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

[6] All sources with regard to Thailand and Malaysia can be found in the individual submissions of Jana Menn and Annika Hanfmann respectively.

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 2021f). 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[7]. 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 5 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

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

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.

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 5: 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 2019c)

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.

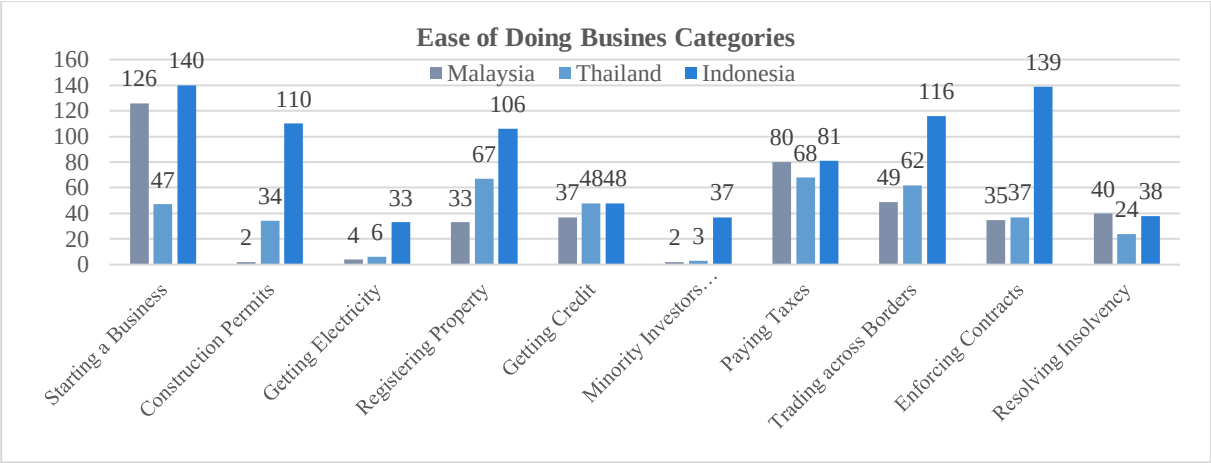

Figure 11: Comparison on "Ease of Doing Business" Ranks for MIT, Source: Own illustration based on (World Bank 2021b; 2021c; 2021a)

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 12 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 12: 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 6 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 6: 5-Phase Action Plan, Source: Own illustration

Beyond that, the expansion roadmap below (Figure 13) 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.

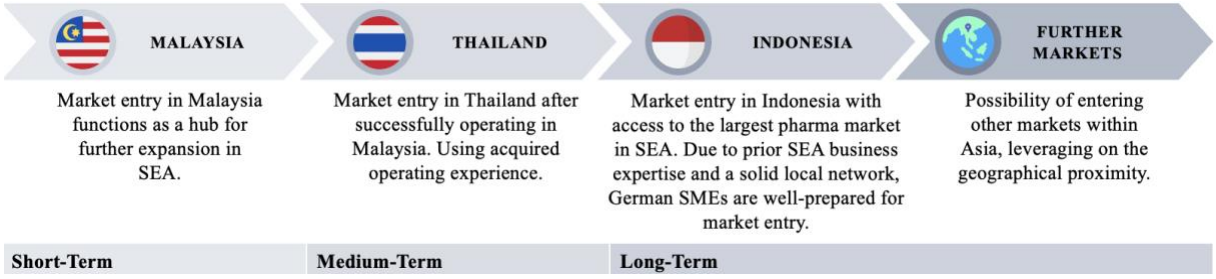

Figure 13: Expansion Roadmap for Medium- and Long-Term Perspective, Source: Own illustration

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[8]. 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,

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

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.

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Appendices

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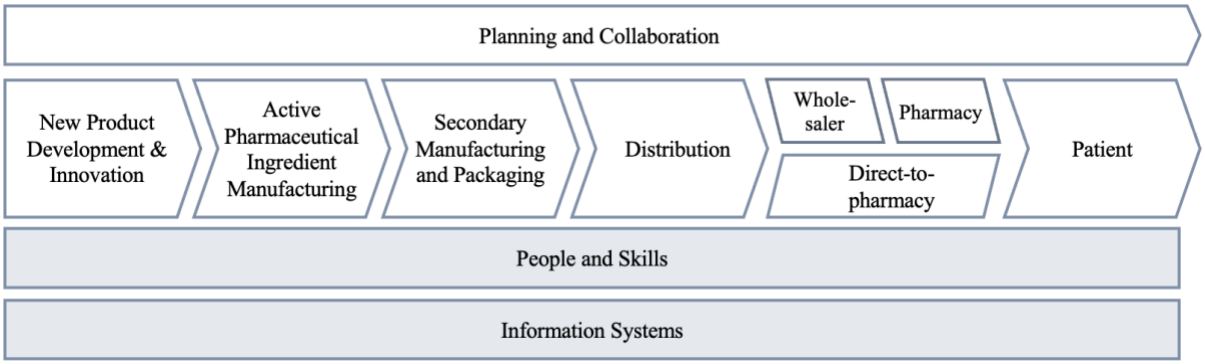
Appendix 2: List of Abbreviations

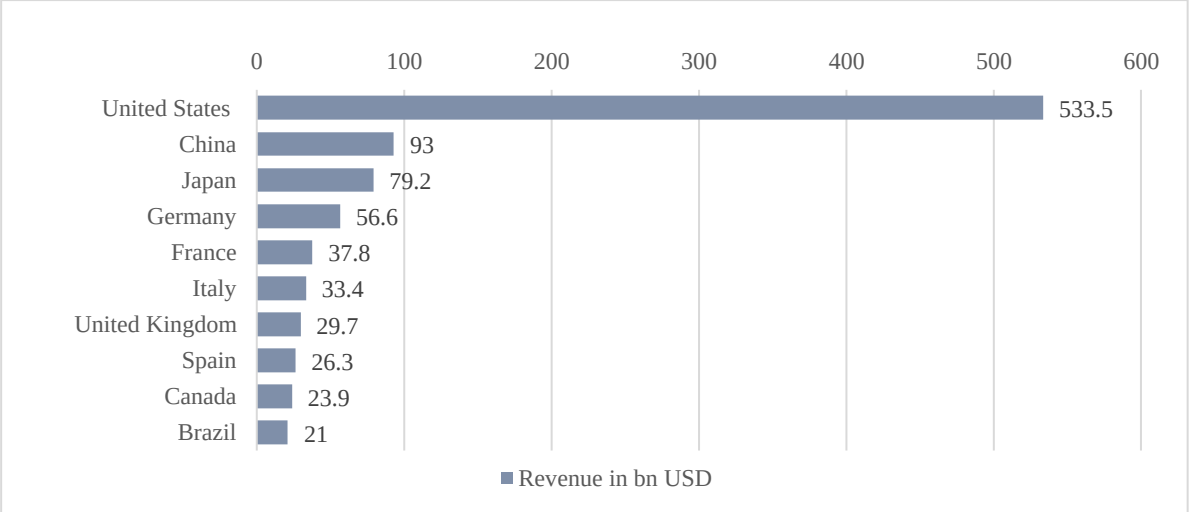
APEC = Asian-Pacific Economic Cooperation
ASEAN = Association of Southeast Asian Nations
B2B = Business-to-Business
BOI = Board of Investment
CIT = Corporate Income Tax
CMSME = Cottage Small and Medium Sized Enterprises
CSMBS = Civil Servant Medical Benefit Scheme
EMA = European Medical Association
EU = 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 2020b)

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

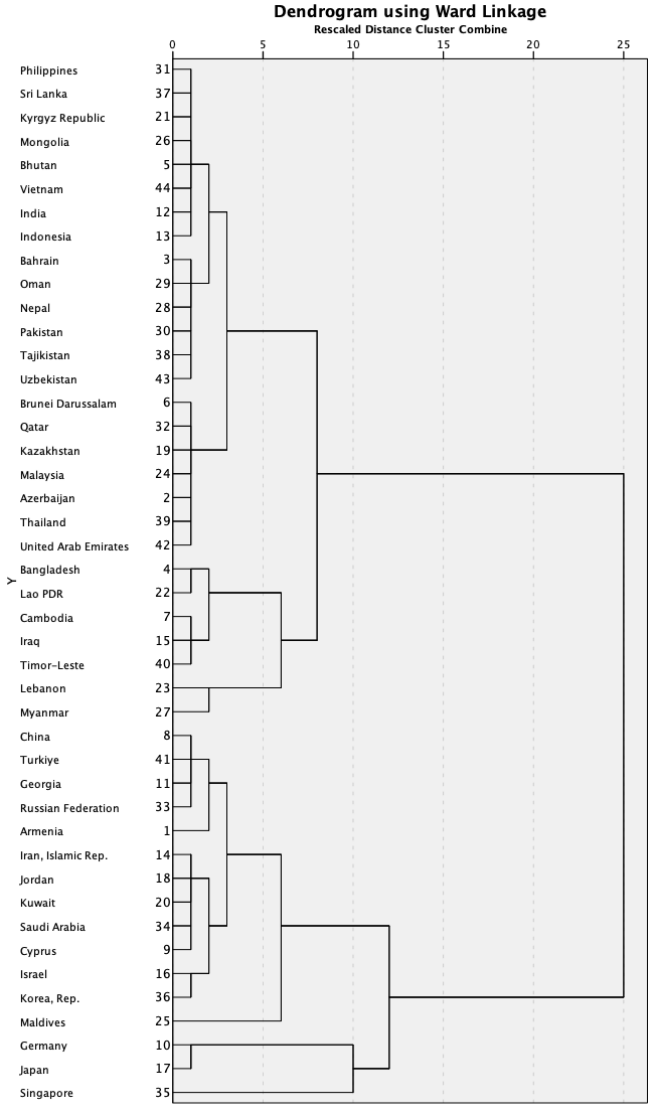
$1 - (x'_{ij})$

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

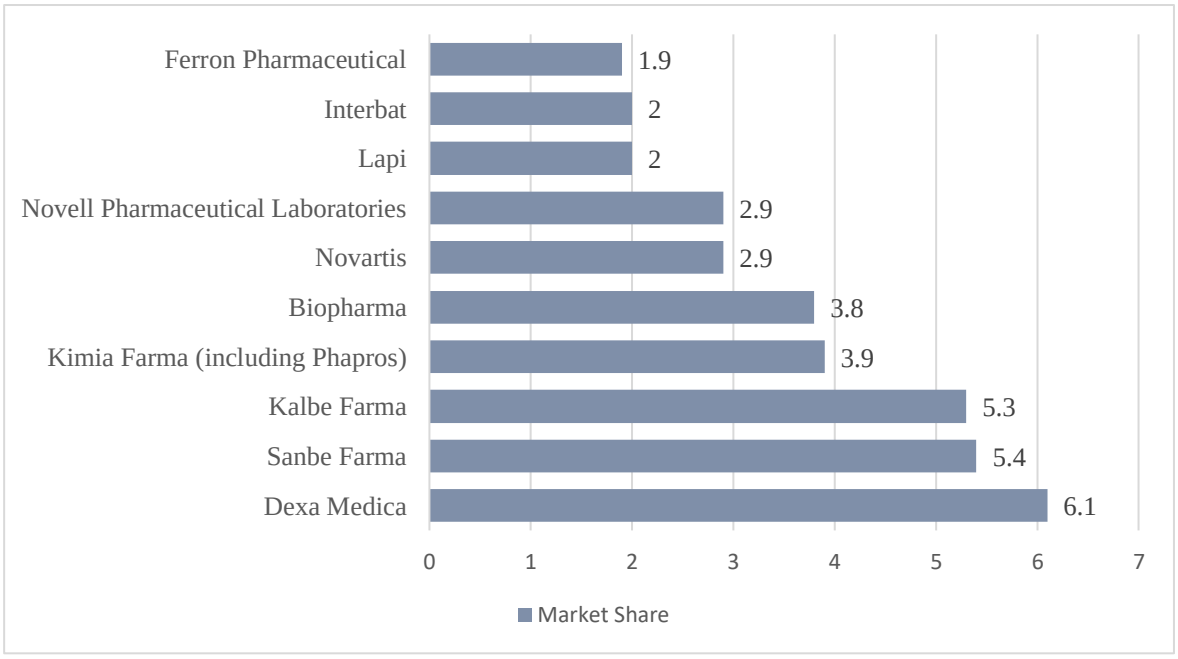
14. What are the main opportunities for foreign pharmaceutical SMEs in MIT?
15. What are the main risks for foreign pharmaceutical SMEs in MIT?
16. What are main barriers for foreign SMEs to enter MIT?
17. What advice would you give to foreign pharmaceutical SMEs trying to expand to MIT?

Appendix 12: Healthcare Expenditure Indonesia 2019 – 2021

	2019	2020	2021
Total health expenditure (in millions USD)	29,316.86	30,958.61	32,900.77
Total health expenditure as % of GDP	2.9	3.1	3.1
Public health expenditure – Total (in millions USD)	14,377.36	15,196.87	16,134.52
Private health expenditure – Total (in millions USD)	14,939.50	15,761.73	16,766.25
Private health expenditure – Out of pocket (in millions USD)	10,037.33	10,576.33	11,235.239

Source: Own illustration based on (GlobalData 2022a, 18; World Bank 2021b)

Appendix 13: Top 10 Pharma Companies in Indonesia



Source: Own illustration based on (Pharma Boardroom 2021b)

Appendix 14: Porter's Five Forces for Indonesia

Threat of New Entry

- The industry is difficult, new entrants face challenges with the economics of scale, access to distribution channels, and government policy
- High for generics
- Low for innovative products
- In recent years, government started to actively attract foreign investors

Bargaining Power of Suppliers

- High due to the limited number of raw material suppliers in Indonesia
- Over 90% of raw materials must be imported primarily from China and India

Competitive Rivalry

- Highly competitive and fragmented pharmaceutical market
- Majority of companies are local players
- Government is prioritizing local generics over patented drugs

Bargaining Power of Buyers

- Government favors local generic firms for the JKN
- Moderate for innovative products
- High for generics due to low switching costs
- Low for end-consumers regarding prescription medicines

Threat of Substitution

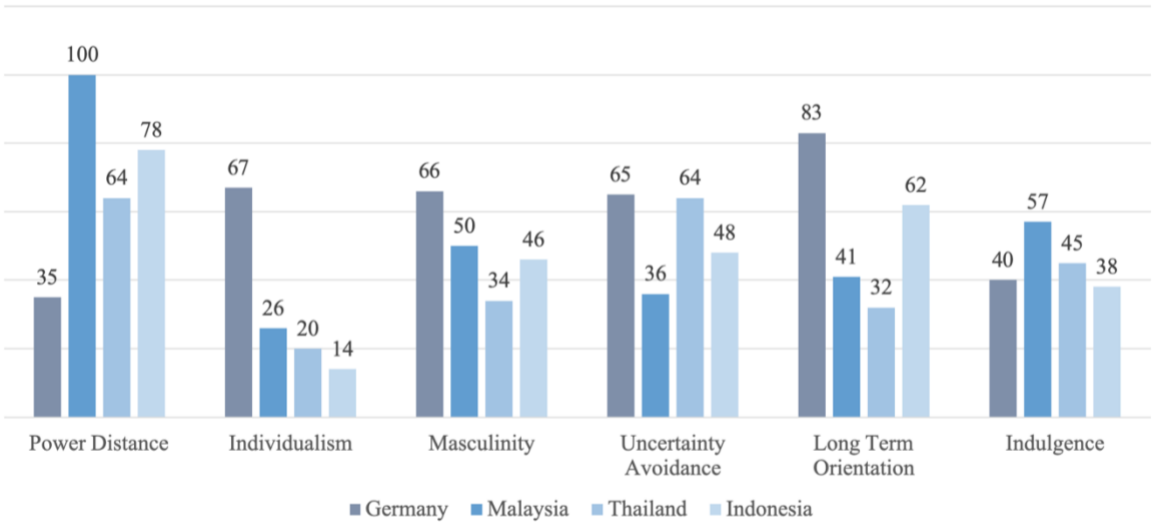
- High for generics due to the high local generics competition
- Lower for innovative products
- Compulsory licensing allows government to produce drugs under patents
- Demand for generics compared to branded drugs increased due to cost containment pressures

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)