Strategic Report
Pfizer

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Executive Summary

This strategic analysis will commence with a consideration of the three main eras in the history of Pfizer, the largest global pharmaceutical enterprise. Next, we look at the strategic posture of Pfizer, namely to "Shape the Future" and its application on the corporate mission, purpose, and values will be examined in Chapter 2. Corporate values and purpose shape the internal behavior and processes across the firm, therefore, they require special attention.

The external environmental analysis discusses the international industry framework and trends. Government interventions and strict legislation are the main drivers of the external environment, requiring a market participant to carefully observe the latest trends. For the coming years, pressure on the prices is expected to increase in most nations, which is driven by aging populations in the U.S. and Europe. To a lesser but not unimportant extent, changes in society impact the environment for the industry, such as increasing healthier lifestyles in most developed countries. The biopharmaceutical industry is segmented in three industry segments - innovator drugs, orphan drugs and generic drugs. The segment of highest sustainable value is found to be the innovator drug segment, significantly ahead of the generic drug segment, while the orphan drug segment is due to the lack of profitability ranked third.

We outline Pfizer's organizational structure by focusing on capabilities and resources to work out the company's core competencies. These are leading to an extraordinary R&D department and a specialized and diverse product portfolio. Also, the company's abilities regarding mergers and acquisitions, backed by strong financials were identified as sustainable core competencies. With these, Pfizer has a very good strategic fit with the industry's key success factors

Moving to Business Strategy, we will describe the products and markets of Pfizer and its evolution, recent differentiation, and innovation. By applying the Ansoff matrix, it is remarkable that Pfizer is moving away from market penetration to product and market development, and from generalization to specialization. Then the types of differentiation and innovation will be examined and Pfizer's approach as an innovator.

We have concluded that Pfizer has a high degree of vertical integration as the company has a presence in each stage of the industry's value chain. Although its core competencies lie within the R&D and Manufacturing stages, we acknowledge that Pfizer utilizes a combination of internal production and external contracting that is present throughout almost the entire chain. Being the core activities of the company, Pfizer should internalize its processes around these stages. However, certain strategic outsourcers possess core competencies that bring added value that Pfizer isn't able to match.

We commence the discussion on strategy formulation, briefly considering whether Pfizer is a diversified company and then move on to its portfolio planning strategy and apply the well-known GE/McKinsey and BCG matrices to assess competitive strengths and market share. Pfizer's corporate development is covered in detail, as well as value creation in this context. We then deal with planning and cover the corporate structure, strategic and operational planning and consider planning in uncertain times such as those we are experiencing in a global pandemic. Strategy Implementation is discussed referring, in passing, to functional and process management of Pfizer and we conclude with strategic control measures implemented by the firm and we end the analysis noting Pfizer's corporate governance controls and systems.

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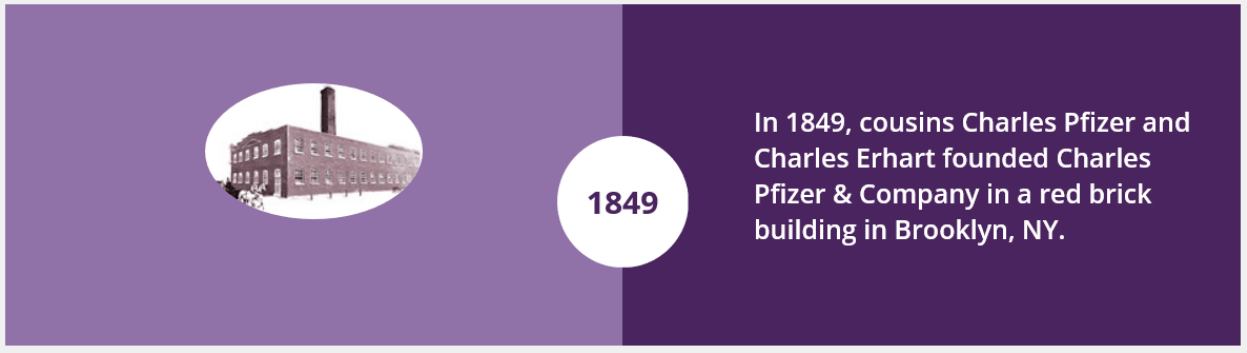
1 Introduction

We will limit our brief discussion of Pfizer's illustrious history to the three main eras of its development into one of the most admired pharmaceutical companies ever:

- The first 100 years-1849 to 1949
- The next period from 1950 to 1998
- The most recent period until 2019

The early years

1849: With $2,500 borrowed from Charles Pfizer's father, cousins Charles Pfizer and Charles Erhart, young entrepreneurs from Germany, open Charles Pfizer & Company as a fine-chemicals business. A modest red brick building in the Williamsburg section of Brooklyn, New York, serves as an office, laboratory, factory, and warehouse.



Their first product is a palatable form of santonin — an antiparasitic used to treat intestinal worms, a common affliction in mid-19th century America. Combining their skills, Pfizer, a chemist, and Erhart, a confectioner, blend santonin with almond-toffee flavoring and shape it into a candy cone. The "new" santonin is an immediate success and the company is launched.

1899: A leader in the American chemical business, Pfizer marks its 50th anniversary. Its portfolio includes a wide array of industrial and pharmacological products, anchored by citric acid, camphor, cream of tartar, borax, and iodine. The company has offices in New York and Chicago, and its contacts in the import-export business crisscross the world.

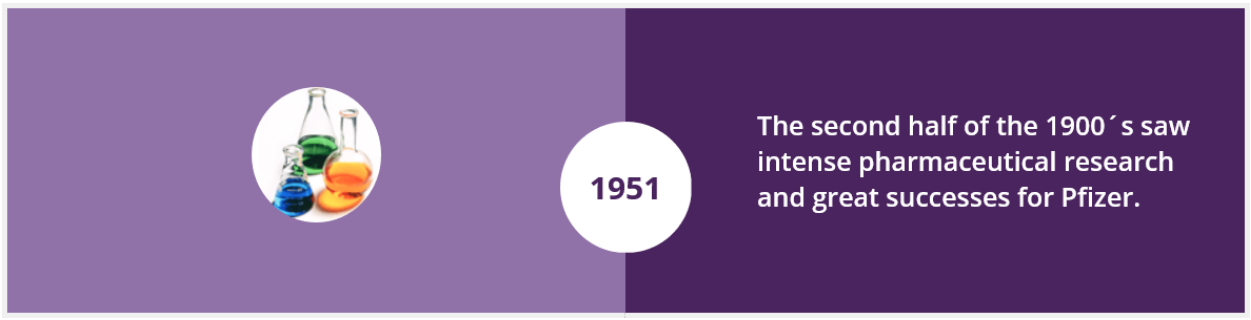
A statement made by Charles Pfizer at the company's 50th-anniversary celebration reveals where the company stands as it moves into the 20th century and an increasingly competitive marketplace: "Our goal has been and continues to be the same: to find a way to produce the highest-quality products and to perfect the most efficient way to accomplish this, to serve our customers. This company has built itself on its reputation and its dedication to these standards, and if we are to celebrate another 50 years, we must always be aware that quality is the keystone."

1941: Pfizer responds to an appeal from the United States Government to expedite the manufacture of penicillin to treat Allied soldiers fighting in World War II. Of the companies pursuing mass production of penicillin, Pfizer alone uses fermentation technology.

In a risky maneuver, Pfizer's senior management invests millions of dollars, putting their assets as Pfizer stockholders at stake, to buy the equipment and facilities needed for this novel process of deep-tank fermentation. Pfizer purchases a nearby vacant ice plant, and employees work around the clock to convert it and perfect the complex production process. In just four months, Pfizer is producing five times more penicillin than originally anticipated. **Penicillin is a turning point in human history—the first real defense against bacterial infection.**

1949: As the mid-point of the 20th century nears, **Pfizer celebrates its 100th anniversary** and a new generation of leaders takes the helm. John McKeen becomes president, George Anderson retires, and John L. Smith takes his place as chairman of the board.

Pfizer scientists begin an intensive quest to find new organisms to fight disease.



1951: While other companies keep their international employees on a short leash, **Pfizer gives its international people tremendous autonomy, enabling them to make critical decisions immediately**, rather than waiting weeks, or even months, for the home office to respond. This formula proves to be remarkably successful in the years ahead.

The 1950s to the turn of the century:

1972: Pfizer **crosses the billion-dollar sales threshold**. John Powers, Jr. steps down; Edmund T. Pratt, Jr. becomes CEO; and Gerald D. Laubauch becomes President.

Recognizing that the key to **Pfizer's future growth lies in its ability to discover and develop innovative pharmaceuticals, Chairman Ed Pratt increases the company's Research and Development budget from about 5 percent to 15 to 20 percent of sales**.

1997: Fortune® magazine names Pfizer the world's most admired pharmaceutical company.

1998: Pfizer's roster of outstanding drugs grows with the launch of Viagra® (sildenafil citrate), a breakthrough treatment for erectile dysfunction.

Pfizer invests more than $3.3 billion in research and development.

1999: Pfizer celebrates its 150th anniversary as one of the world's premier pharmaceutical companies. Recognized for its success in discovering and developing innovative drugs for human discovery, Forbes® magazine names Pfizer "Company of the Year."

Pfizer investment in research and development exceeds $4 billion for the first time.

From 2000 to 2019:

2005: Pfizer launches Lyrica, the first treatment approved by the U.S. Food and Drug Administration to treat two distinct forms of neuropathic pain associated with diabetic peripheral neuropathy (DPN), postherpetic neuralgia (PHN) and adjunctive treatment of partial-onset seizures in adults with epilepsy.

2009: Wyeth acquisition: On October 15th, 2009, Pfizer completed its acquisition of Wyeth.

2011: the company had sales of US$67.4 billion but had also absorbed several very large acquisitions from 1999–2009, including Wyeth, Warner-Lambert, and Pharmacia

2013: Pfizer announces plans to move forward to internally separate its commercial operations into three business segments, two of which will include Innovative business lines and a third which will include the Value business line. Each of the three segments will include developed markets and emerging markets. The changes are implemented in January 2014 in countries that do not require a consultation with works councils or unions and are then implemented in countries that require consultation after the successful conclusion of those processes.

2016: Watson Health and Pfizer announced a collaboration that will utilize IBM Watson for Drug Discovery to help accelerate Pfizer's research in immuno-oncology, an approach to cancer treatment that uses the body's immune system to help fight cancer. Pfizer is one of the first organizations worldwide to deploy Watson for Drug Discovery, and the first to customize the cloud-based cognitive tool – tapping into Watson's machine learning, natural language processing, and other cognitive reasoning technologies to support the identification of new drug targets, combination therapies for study, and patient selection strategies in immuno-oncology.[1]

[1] https://www.pfizer.com/people/history

2 External Environment

An analysis of the external industry environment of a firm serves to gain an in-depth understanding of an industry environment and is a crucial starting point for any strategic company assessment. Environmental influences can be thought of as layers around an organization, with the outer layer representing the macro-environment, the middle layer representing the chosen industry segment or sector, and the inner layer of the competitors and strategic groups. This analysis intends to identify the key drivers of change, which managers need to address in their strategic choices. Alternative scenarios about the future can be constructed according to how the key drivers develop.

We will limit our external environment to the global prescription drug industry.

2.1 The prescription drug industry

An analysis of the macro-environment provides an overview of the industry trends that directly or indirectly influence the operations of Pfizer today and in future. The following PESTEL summary groups the influences in politics, economy, society, technology, environment and legislation:

	Significant Trends	Impact on Demand	Impact on Supply
Politics	▪ Government price interventions expected to increase pressure on prices	no significant impact due to price inelasticity of prescription drugs	no material impact expected since prescriptions drugs are necessity goods
	▪ Healthcare reforms seeking to contain public healthcare expenditures	downward pressure possible due to more private spending required	downward pressure expected but of no material impact on supply
Economy	no material trends		
Society	▪ Changing lifestyles and overall health increasing life expectancy	downward pressure on demand for prescription drugs per capita	no significant impact
	▪ Antimicrobial resistance increasingly leading to resistance to antibiotics	increase of demand for alternative drugs	need for innovator drugs leads to an expected increase in supply of such
	▪ slowly growing healthcare access levels in developing countries	no material effect on demand expected	supply expected to increase as producers cooperate with governments to increase access
Technology	▪ technology and big data drive innovation and create large opportunities	overall downward pressure on demand due to higher drug efficacy	increased in supply of tailored drugs prescriptions expected

	▪ growing number of patients trust on the internet for information and treatments	↑ upward pressure due to better information on drugs and their availability	↑ upwards pressure on supply-driven by demand
Environment	no material trends		
Legislation	▪ major improvements in drug authorization processes in China currently underway	| no material impact on demand	↑ Increase in supply in China due to easier access to the market
	▪ continuous revisions of legal regulations concerned with drug marketing and pricing	| no material impact on demand	| no material impact, but adjustment times may affect supply negatively

Table 1 - PESTEL analysis applied to the prescription drug industry

Subsequently, we explore the prescription drug industry in greater detail:

a) Politics

The biopharmaceutical industry is heavily influenced by government intervention in the market to control the costs of biopharmaceutical products as well as by alterations to the public healthcare system. Some influences of politics on the industry in the U.S. are discussed in what follows.

Government Price Intervention

In the U.S., governments routinely seek to manage utilization and control the costs of biopharmaceutical products. For example, the majority of states use preferred drug lists to restrict access to certain pharmaceutical products under the Medicaid Managed Care Program. Access to drugs under Medicaid is typically determined by the health plans with which state Medicaid agencies contract to provide services to Medicaid beneficiaries. Given certain states' current and potential ongoing fiscal crises, a growing number of states are considering a variety of cost-control strategies, including capitated managed care plans that typically contain cost by restricting access to certain treatments.

Efforts by governments to implement measures to regulate prices for pharmaceutical products could adversely affect the business of biopharmaceutical companies if implemented. Recently, there has been considerable public and government scrutiny of pharmaceutical pricing and proposals to address the perceived high cost of pharmaceuticals. At the federal level, for example, in May 2018, President Trump released his Blueprint to Lower Drug Prices and Reduce Out-of-Pocket Costs. Certain proposals in the Blueprint could cause significant operational and reimbursement changes for the pharmaceutical industry. As another example, in October 2018, the Centers for Medicare and Medicaid Services solicited public comments on potential changes to payment for certain drugs, including reducing the Medicare payment amount for selected drugs to more closely align with international drug prices.

Healthcare Reform

There have been significant efforts at the federal and state levels to reform the healthcare system by enhancing access to healthcare, improving the delivery of healthcare, and further rationalizing payment for healthcare. For example, the biopharmaceutical industry faces uncertainties due to federal legislative and administrative efforts to modify or invalidate some or all of the provisions of the Affordable Care Act (ACA). For example, a recent reform in the U.S. eliminates the tax penalty for individuals who do not maintain sufficient health insurance coverage beginning in 2019. As another example, the Bipartisan Budget Act of 2018 increased the discount biopharmaceutical companies pay in the Medicare Part D "coverage gap" from 50% to 70%. Any future healthcare reform efforts may adversely affect the business and financial results of biopharmaceutical companies.

b) Economy

Economy factors generally have less influence on the biopharmaceutical industry when compared to most other industries. Some implications of the economy on the industry are discussed below.

Income inelastic demand

On the demand side, biopharmaceutical products are generally classified as necessity goods and are therefore inelastic to changing consumer income levels. This applies especially to generic drugs that are not sold for a brand premium and closely resemble a perfectly interchangeable product. Innovator/branded drugs show little demand sensitivity to changing income levels as long as the equivalent generic drug is not available.

Raw material supply

The industry supply chain for biopharmaceutical products generally has a high degree of vertical integration when compared to other industries. Biopharmaceutical companies purchase raw materials that are processed into finished consumer goods. These raw materials are purchased worldwide from numerous suppliers and are generally available from multiple sources. Periodic industry shortages of select materials may emerge and may be handled with active supplier management. For example, Pfizer expected a shortage of certain materials in 2018 due to constrained capacity or operational challenges with the associated suppliers. Supplier management activities have helped to prevent a significant impact on the firm's operations.

Competition from generics

Generic drugs are equivalent to brand-name/innovator products but cost significantly less because they do not carry the investment costs associated with the development of the new drug. On average, a small-molecule generic medicine takes only about two years to develop, at a cost of around one to two million compared to ten years and about $2.6 billion for a new biopharmaceutical drug. After the innovator/branded drug loses market exclusivity, competitors can legally manufacture and sell a generic alternative at a lower price.

Patents and other forms of intellectual property (IP) play an important role in incentivizing the discovery and development of newer and more effective medicines and vaccines that address unmet medical needs of patients. Patent-protected drugs are the necessary precursor of generic medicines and, in simple terms,

the generic medicines of today are the innovative medicines of yesterday that have since come off-patent. By paving the way for generics, a continuous cycle of innovation, incentivized by patents, helps lower health care costs and makes certain medicines more accessible to patients over time.

c) Society

Trends in society and demographics strongly interreact with the pharmaceutical industry. Some of the most important issues are discussed in what followings:

Changing lifestyles

Changes in lifestyle, such as diet, urbanization, and exercise habits, combined with increasing life expectancy in many countries, lead to increased prevalence of non-communicable diseases (NCDs), such as cancer, cardiovascular disease, and diabetes. Chronic diseases are often difficult to treat and create a need for pharmaceutical companies to innovate breakthrough medicines and vaccines.

These factors create new challenges to help enhance and extend lives but also increase pressure on health care providers and policymakers.

Pricing

As previously discussed, some governments, payors, or patient groups increasingly review health care budgets for affordability and seek to reduce the price of medicines through regulation and/or other means. This pressure on health care systems is derived from societal trends such as aging populations and changing demographic shifts combined with new treatments, such as gene therapies, that bring breakthroughs and value with high upfront costs. In emerging markets, the middle class has growing expectations for governments to provide quality health care and access to innovative treatments.

An investment in medicines, therefore, delivers value to society in some critical ways: it helps avoid other costly health care interventions, increases patients' quality of life, and has demonstrated improved worker productivity. When pricing medicines, a variety of factors need to be considered. Biopharmaceutical producers should seek to provide medicines that are reasonably affordable for patients, payors, and governments, considering the value that the firm's medications bring to those stakeholders and the health care system.

Antimicrobial resistance

Antimicrobial Resistance (AMR) is a leading global public health threat and a major challenge for health care systems. Antimicrobial medicines are losing their effectiveness because pathogens change and find ways to resist the effects of antibiotics. The pathogens survive, grow, and spread their resistance, which is a process of adaptation that leads to AMR. Overuse and misuse of these treatments are accelerating the process of resistance, as AMR can affect anyone, of any age, in any country.

Without effective antimicrobials, even routine medical procedures can become high-risk. Once a micro-organism has become resistant, there are a limited number of remaining treatment options, which represents a significant public health and economic burden to health care systems.

Trust and Expectations

A period of sustained low economic growth and a series of high-profile corporate crises have contributed to a global breakdown in society's trust for "big business." Generally, there are increasing expectations of the role that companies should play in society. In the pharmaceutical industry, recent media attention and investigations into the safety and pricing practices of a few companies have magnified this issue, leading to a reputational challenge across the entire industry.

Access

Barriers to health care and access to medicine are broad societal problems that cannot be resolved by biopharmaceutical companies alone. However, as developers and manufacturers of medicines and vaccines, these companies have a responsibility to help facilitate access in partnership with many other stakeholders in the health system. Globally, about two billion people do not have access to the medicines they need.

d) Technology

Technological causes disruption in most industries, which certainly does not exclude the pharmaceutical industry. Below are some major trends in the pharmaceutical industry discussed.

Innovation and Data

Pharmaceutical companies are responsible to effectively treat and manage chronic and life-threatening diseases, which requires to continue advancing innovative medicines and vaccines. In recent years, developments such as biologics and precision medicine have been effective at treating many of these diseases, for example.

Technology is, therefore, changing the way pharmaceutical companies approach to research and development activities. Mobile and internet connectivity, "big data" and analytics bring new insights and huge opportunities to drive innovation. Data will help scientists to more efficiently develop medicines and better define which patients will benefit most from specific treatments and vaccines.

Patient empowerment

Widespread internet availability, combined with the aging of the more internet-savvy generations, continues to transform how patients engage in their health care. The number of patients who trust internet platforms for the earliest symptoms through the treatment process and beyond is continuously growing. This access to information helps patients become better informed about their conditions, as well as medicines available to them.

e) Environment

Environmental issues tend to have a smaller impact on the pharmaceutical industry when compared to other industries. Some of the main issues are discussed below.

Pollution and contamination from industrial activity

Pharmaceutical companies are, as any other company, required to make the expenditures necessary to comply with the local environmental regulations. These include removing environmental contamination

from past industrial activity at certain sites and water pollution of ongoing industrial activity, whereby the latter represents a serious threat with dangerous pharmaceutical ingredients reaching the drinking water. Albeit that such expenditures are important and necessary, they do not constitute significant line items on the balance sheet, nor do they generally negatively affect a pharmaceutical company's competitive position.

Climate change

Pharmaceutical companies are also subject to regulatory requirements related to climate change, which lead to capital expenditure. The regulations are revised regularly in most countries. Also, climate change brings the potential for more frequent and severe weather events and water availability challenges that may impact the production facilities of pharmaceutical companies and industry suppliers. For example, in 2017, many manufacturing and commercial operations in Puerto Rico were impacted by hurricanes. However, in general, weather-related trends are expected to have little impact on the pharmaceutical industry in the near term.

f) Legislation

Pharmaceutical companies are subject to extensive regulation by government authorities in the countries in which they do business. Certain laws and regulations that govern biopharmaceutical companies' business in the U.S. are discussed below.

Drug Regulation & New Drug Approval

In the U.S., biopharmaceutical products are subject to extensive pre- and post-market regulation by the FDA (Food and Drug Administration), including regulations that govern, among other things, the safety and efficacy of a biopharmaceutical company's medicines, clinical trials, advertising and promotion, manufacturing, labeling, and record-keeping.

Other U.S. federal agencies, including the DEA (Drug Enforcement Administration), also regulate certain pharmaceutical products. The U.S. Federal Trade Commission has the authority to regulate the advertising of consumer healthcare products, including OTC drugs and dietary supplements.

Biopharmaceutical companies seeking to market a product in the U.S. must first test the product to demonstrate that it is safe and effective for its intended use. If, after evaluation, the FDA determines the product is safe (i.e., its benefits outweigh its known risks) and effective, then the FDA will approve the product for marketing. Companies seeking to market a generic prescription drug must scientifically demonstrate that the generic drug is bioequivalent to the innovator drug. The generic drug application must show that the generic drug is pharmaceutically equivalent to the brand, the manufacturer is capable of making the drug correctly, and the proposed label is the same as that of the innovator drug's label.

Even after a drug is approved for marketing, it may still be subject to post-marketing requirements. Post-marketing commitments are studies or clinical trials that the drug sponsor has agreed to conduct but are not required by governmental regulation. Post-marketing requirements include studies and clinical trials that sponsors are required to conduct, by law and/or regulation, as a condition of approval. Post-marketing studies or clinical trials can be required to assess a known risk or demonstrate a clinical benefit for drugs to accelerated approval. If a company fails to meet its post-marketing requirements, the FDA may assess a civil monetary penalty, issue a warning letter or deem the drug or biologic misbranded. Once a drug is

approved, any modifications to the product must be notified to the FDA and may also require a manufacturer to submit additional studies or conduct clinical trials. Besides, pharmaceutical companies are required to report adverse events and comply with advertising and promotion regulations. Failure to comply with the FFDCA may subject the firm to administrative and/or judicial sanctions, including warning letters, product recalls, seizures, delays in product approvals, injunctions, fines, civil penalties and/or criminal prosecution.

In the EU, the approval of new drugs may be achieved using the Mutual Recognition Procedure, the Decentralized Procedure, or the EU Centralized Procedure. These procedures apply in the EU member states, plus the European Economic Area countries, Norway, Iceland, and Liechtenstein. The Centralized Procedure, managed by the European Medicines Agency (EMA), results in one single authorization for the whole EU, which provides the most rapid and efficient means of gaining approval across the EU and is the one most commonly used for new products.

In China, the regulatory system historically presented numerous challenges for the pharmaceutical industry, as its requirements for drug development and registration were often inconsistent with the U.S. or other international standards. In recent years, however, China has introduced reforms and draft reforms, which are discussed in more detail below, that attempt to address these challenges. 2018 was another active year in this respect, with several reforms coming into effect, and more proposals and drafts being issued for consultation.

Sales and Marketing Laws and Regulations

The marketing practices of U.S. biopharmaceutical companies are generally subject to federal and state healthcare regulations that are intended to prevent fraud and abuse in the healthcare industry and to protect the integrity of government healthcare programs. These laws include anti-kickback laws and false claims laws. Anti-kickback laws prohibit a biopharmaceutical company from soliciting, offering, receiving, or paying anything of value to generate business. False claims laws generally prohibit anyone from presenting any claims for payment for goods (including drugs or biologics) or services to third-party payers (including Medicare and Medicaid) that are false or fraudulent and generally treat claims generated through kickbacks as false or fraudulent. Violations of fraud and abuse laws may be punishable by criminal or civil sanctions and/or exclusion from federal healthcare programs (including Medicare and Medicaid).

The federal government and various states also have enacted laws to regulate the sales and marketing practices of pharmaceutical companies. The laws and regulations generally limit financial interactions between manufacturers and healthcare providers, require disclosure to the federal or state government and the public of such interactions, and/or require the adoption of compliance standards or programs. Many of these laws and regulations contain ambiguous requirements or require administrative guidance for implementation. Individual states have become active as well, seeking to regulate the marketing of prescription drugs under state consumer protection and false advertising laws. Given the lack of clarity in-laws and their implementation, the activities of pharmaceutical companies could be subject to the penalties under the pertinent laws and regulations.

2.2 Industry Segments and Attractiveness

a) Segmentation

In general, the global prescription drug industry is commonly segmented into three market segments:

1. Innovator drugs: Also known as branded drugs, innovator drugs are products that were first authorized for marketing. Commonly, the innovator drugs are patented to preserve the exclusivity and enable the developer to finance the development costs. In the United States, the term for new patents is in general 20 years from the date of application but many factors can affect the duration of a drug patent. [2]

2. Orphan drugs: Orphan drugs are drugs that are developed to specifically treat a rare medical condition, which is referred to as an orphan disease. Due to their limited market, few pharmaceutical companies pursue research into such products. Selling to only a small group of patients, drug manufacturers would be unlikely to recover development and marketing costs, with hardly a chance of making a profit by producing the product. Governments often incentivize the development of orphan drugs, but it remains that no treatments exist for the vast majority of rare diseases.[3] According to the US Food and Drug Administration (FDA), an orphan drug is defined as one "intended for the treatment, prevention or diagnosis of a rare disease or condition, which is one that affects less than 200,000 persons in the United States."[4]

3. Generic drugs: Generic products are usually equivalent to an innovator drug and may be marketed once the innovator's drug patent or other exclusivity rights have expired. Generics may be marketed under the approved non-proprietary name or the brand name subject to authorization and may differ in dosage forms from the branded product. Generic drugs incur significantly lower development costs compared to innovator products. While there is no international consensus on the definition, the FDA states that "generally generics contain the same ingredient as the original drug, and its behavior in terms of quality, efficacy, and safety must be the same".

b) Value and Growth Analysis

The following exhibit compares the three industry segments by global market size historically (2010 to 2019) and provides an outlook to 2024:

[2]https://www.fda.gov/drugs/development-approval-process-drugs/frequently-asked-questions-patents-and-exclusivity
[3] https://www.medunikusa.com/en/rare-diseases-community/what-is-an-orphan-drug
[4] https://www.fda.gov/industry/developing-products-rare-diseases-conditions

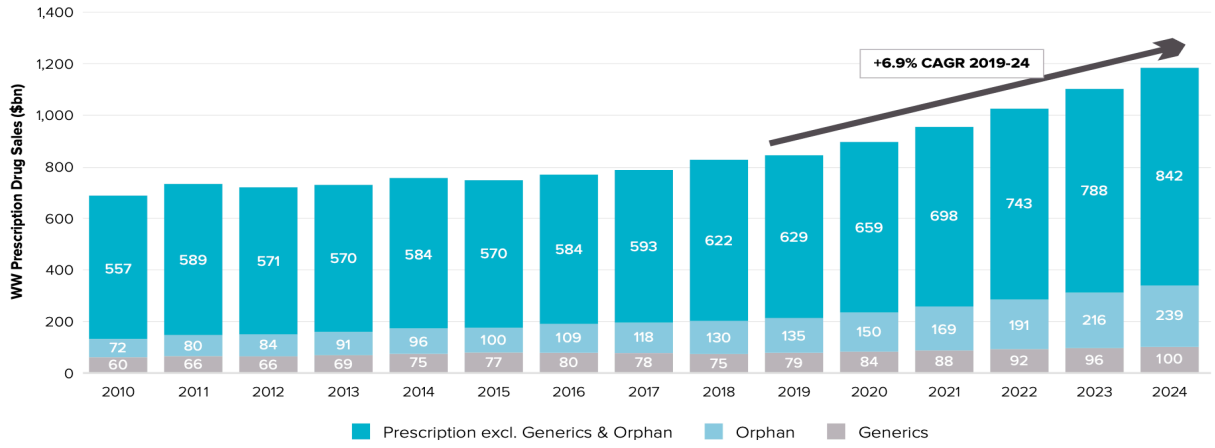


Figure 1 - Development of sales in the global prescription drug market

The compound annual growth rate (CAGR) for the historic and forecast development of the prescription drug industry is summarized for each market segment in the following table:

	historic development 2010-2019	forecast development 2019-2024
innovator drugs	+ 1.4 %	+ 6.0 %
orphan drugs	+ 7.2 %	+ 12.1 %
generic drugs	+ 3.1 %	+ 4.8 %
total prescription drugs industry	+ 2.3 %	+ 7.0 %

Table 2 - Industry segment development

Total prescription drug sales are expected to reach $1.18 trn in 2024, which translates into a CAGR of +5.7 % for 2020 through 2024 compared to a CAGR of +2.3 % from 2010 through 2019. Immuno-oncology line extensions significantly contribute to the strong growth forecast along with new novel technologies such as cell and gene therapy that mark an inflection point in pharma's evolution. The industry has seen a major set-back in 2019 with one of the biggest failures, aducanumab, which was discontinued in late-phase trials for Alzheimer's disease. On the positive side, two new innovator drugs with high sales expectations, Ultomiris and Takhzyro, launched recently and are set to drive growth. Forecasts indicate that $198bn of sales are at risk between 2020 and 2024, with 2023 set to see the expiry of key patents for several biologics including Humira and Stelara. Both of these products are still forecast to retain spots within the world's top ten selling drugs in 2024.[5]

c) Margin assessment

To estimate the margins for each industry segment, a qualitative assessment following Porter's 5 Forces framework has been performed. In a first step, the industry rivalry for each segment was assessed with the application of a scoring model whilst in a second step the average scores are applied to approximate the

[5] https://info.evaluate.com/rs/607-YGS-364/images/EvaluatePharma_World_Preview_2019.pdf

estimation of net profit margins for each segment. The model follows the logic of lower industry rivalry leading to higher net profit margins. The results of the qualitative assessment are summarized below:

	innovator drugs	orphan drugs	generic drugs
The threat of New Entrants	LOW ▪ very high R&D costs ▪ high product differentiation ▪ high legal restriction level ▪ industry knowledge control	LOW ▪ very high R&D costs ▪ high product differentiation ▪ high legal restriction level ▪ industry knowledge control	MEDIUM ▪ low product differentiation ▪ relative low switching costs ▪ relative low capital requirements/R&D costs
Threat of Substitutes	LOW ▪ hardly substitutes available ▪ low substitute growth opportunities ▪ high product differentiation	LOW ▪ hardly substitutes available ▪ low substitute growth opportunities ▪ high product differentiation	LOW ▪ hardly substitutes available ▪ low substitute growth opportunities ▪ high product differentiation
Bargaining Power of Suppliers	LOW ▪ high number of suppliers ▪ low supplier switching costs ▪ low possibility for suppliers to integrate downstream	LOW ▪ high number of suppliers ▪ low supplier switching costs ▪ low possibility for suppliers to integrate downstream	LOW ▪ high number of suppliers ▪ low supplier switching costs ▪ possibility for suppliers to integrate downstream exists
Bargaining Power of Buyers	LOW ▪ high product differentiation ▪ hardly substitutes available ▪ high relevance of products purchased by industry	LOW ▪ high product differentiation ▪ no substitutes available ▪ high relevance of products purchased by industry	MEDIUM ▪ homogenous product ▪ innovator drug is a substitute ▪ high product relevancy
Industry Rivalry	MEDIUM ▪ revenues are correlated with R&D expenditures ▪ rivalry for new product discovery and patent protection	LOW ▪ very small market size ▪ profitability subject to government incentives ▪ rivalry for new product discovery and patent protection	HIGH ▪ homogenous product ▪ no patent protections ▪ low switching costs ▪ many industry participants
Margin Assessment	HIGH	HIGH	MEDIUM

Table 3 - Porter's 5 forces analysis and margin assessment

From Porter's 5 Forces analysis one may conclude that industry margins are highest for the orphan and innovator drug segment, whereby the first mentioned are heavily dependent on government incentives. As explored previously, orphan drugs serve such a small market that makes it nearly impossible for pharmaceutical companies to recover the high required R&D spending to develop the drug with sales revenue. The development of an orphan drug is therefore subject to government incentives that allow pharmaceutical companies to make a certain profit. Besides government subsidies for profitability, drivers that lead pharmaceutical companies to develop orphan drugs may include marketing advantages and gaining research knowledge. Consequently, the net margin within the orphan drug segment is assessed to be very low but ultimately depending on government subsidies.

When comparing the innovator drug segment and the generic drug segment, industry rivalry is assessed to be lower for innovator drugs, which allows us to conclude that net margins are higher. The main driver here is patent protection, which allows pharmaceutical companies to recover the high R&D development costs of innovator drugs and shift into high profitability. The rivalry for innovator drugs can be related to a 'race' of discovery, approval, marketing, and capitalizing of new drugs that may result in high profits or high sunk costs for the pharmaceutical company. In the generic drug segments, the high industry rivalry puts strong pressure on margins, which are therefore considerably lower compared to innovator drugs. The main driver here is the absence of patent protection which turns the drug into a homogenous product.

The following table presents the net margins in percent for each of the three segments as published by industry research. Note that margins are net of R&D costs and government subsidies in the case of orphan drugs.

	Net Margin Published Industry Estimates[6][7][8]
innovator drugs	28.0 %
orphan drugs	20.0 % - 25.0 %
generic drugs	18.0 %

Table 4 - Net margins in the prescription drug industry

The above-presented industry research estimates confirm the previous assessment: net margins are on average highest in the innovator drug segment with about 28.0 %, with a wide gap followed by the generic drug segment with about 18.0 % and lastly orphan drugs with about 3.0 % to 5.0 % (government incentives included).

d) Risk assessment

The expected level of risk may be measured by fluctuation in the expected net market value. The higher the coefficient of variation (CV; standard deviation divided by the average), the higher the dispersion around the mean and hence the level of risk for the market segment. The estimation builds on the net income per market segment, which is identified by multiplying the estimated sales by the previously presented net margin of each segment. The following table summarizes the risk assessment:

	Net Income 2020-2024	Standard Deviation	Risk Coefficient of Variation
innovator drugs	$ 209.1 bn	$ 20.3 bn	9.7
orphan drugs	$ 7.7 bn	$ 1.4 bn	18.5
generic drugs	$ 16.7 bn	$ 1.2 bn	6.9

Table 5 - Risk assessment of the prescription drug industry

[6] https://info.evaluate.com/rs/607-YGS-364

[7] https://info.evaluate.com/rs/607-YGS-364/images/EvaluatePharma_World_Preview_2019.pdf

[8] https://healthpolicy.usc.edu/wp-content/uploads/2017/06/USC_Flow-of MoneyWhitePaper.pdf

It is evident from the assessment that risk is estimated to be lowest for the generic drug segment (CV of 6.9), followed by the innovator drug segment (CV of 9.7). The orphan drug segment is assessed to have a significantly higher risk level (CV of 18.5) compared to the other two market segments.

e) Sustainability

The sustainability assessment draws on some qualitative factors which assess environmental sustainability, social sustainability, and governance sustainability and result in a sustainability index score. The following table presents the index score for each market segment:

	Sustainability Index[9]
innovator drugs	1.0
orphan drugs	1.2
generic drugs	0.8

Table 6 - Sustainability assessment of the prescription drug industry

Sustainability was assessed to be highest for orphan drugs with social sustainability being the main driver due to their positive impact on the quality of life improvements. On the other side, high R&D expenditures with negative environmental externalities exert downward pressure on the sustainability index of orphan drugs. Innovator drugs rank second with somewhat lower social sustainability ratings while environmental ratings are comparable to the ones of orphan drugs. Generic drugs achieve the lowest score which is mainly due to a relative underperformance in social sustainability ratings given the absence of value creation to society in the form of new drug discovery. However, the fallback was weekend due to lower prices creating value to society and better environmental performance due to the significantly less contamination from the R&D activities.

f) Attractiveness

The sustainable value, or attractiveness, is assessed for each market segment following the sustainable value indicator approach. The results are presented in the table below:

	Sales	Growth	Margin	Risk	Sustainability	Attractiveness Score/Assessment	
innovator drugs	$ 629.0 bn	+ 6.0 %	+ 28.0 %	9.7	1.0	2,507	VERY HIGH
orphan drugs	$ 135.0 bn	+ 12.1 %	+ 22.5 %	18.5	1.2	387	HIGH
generic drugs	$ 79.0 bn	+ 4.8 %	+ 18.0 %	6.9	0.8	210	MEDIUM

Table 7 - Industry attractiveness assessment of the prescription drug industry

The analysis shows a considerable difference in attractiveness between the market segment. The innovator drug market is found to be of very high value, ahead of to the second-ranked orphan drug segment and the third-ranked generic drug segment with medium attractiveness. The great performance of the innovator

[9] https://www.pharmaceutical-technology.com/features/pharma-and-the-environment-pollution-trend/

drug segment can primarily be explained by the very large market size paired with the highest margin and the low-risk assessment. The high attractiveness of the orphan drug segment, amidst the very small market size highest risk, is derived from the potentially high margins due to government incentives.

While the assessment provides a good overview of the relative performance, there is one limitation to the model that needs to be taken into consideration, which is the fact that the assessment does not directly account for the financial risk connected to the research and marketing of a newly discovered drug. For example, aducanumab, a newly discovered drug to treat Alzheimer's, had to be discontinued after it failed a late phase testing, resulting in estimated sunk costs of $2.5 bn from R&D for the producer Biogen Idec[10].

2.3 Key success factors

The key success factors are elements that are defined by the market and critical for success in the market segment. To identify the key success factors, an assessment of the key purchasing factors, or in other words the critical factors creating value for consumers, and the key competition factors, which are the critical factors required to compete in the market, needs to be made. The following table presents the key success factors analysis for the three market segments.

	Key purchasing factors (Value to customer)	Competition factors (Competition Variables)	Key success factors
innovator drugs	Drug efficacy Brand perception Marketing communications (create awareness with prescribers) Physical availability	Product innovation Patent protection	Effective distribution Product innovation & efficacy Intellectual property exploitation
orphan drugs	Drug efficacy Marketing communications (create awareness with prescribers) Physical Availability	Product innovation Patent protection Government incentives	Effective distribution Product innovation Intellectual property preservation Effective Lobbying
generic drugs	Pricing Brand perception Physical Availability	Production cost Early market entry Marketing communications (broad-based campaigns to drive volumes)	Marketing Pricing Availability

Table 8 - Key success factors in the prescription drug industry

The key success factors are briefly described in the following:

[10] www.biospace.com/article/advancing-biogen-s-alzheimer-s-treatment-could-cost-2-5-billion-before-knowing-if-the-drug-works-/

Effective distribution, marketing, and availability (innovator/orphan/generic)

An effective distribution and marketing are imperative for success in all three segments. Access to many markets requires to obtain authorization of regulatory authorities in different countries and a strong distribution network. Without providing sufficient availability, a biopharmaceutical producer may not be able to reach sufficient economies of scale to cover the R&D costs, for example. For the marketing of innovator and, to some extent, orphan drugs, biopharmaceutical companies commonly rely on large promotional events for doctors, large pharmacists, and other healthcare stakeholders, as they are often the purchasing decision-makers and their product awareness is key. Other marketing activities to influence the decision-makers are free samples or invitations to sponsored trips.

Production innovation & efficacy (innovator/orphan)

In the innovator and orphan drug industry the possession of the ability to develop a new drug that passes all testing phases and obtains authorization is crucial to be successful. While it is not uncommon that most pharmaceutical companies have to write off sometimes enormous sums of R&D costs due to being forced to discontinue drugs that failed late testing phases, a pharmaceutical producer must be able to successfully research and market new drugs for success. This does not apply to generic drugs since they do not require significant R&D expenditures.

Intellectual property exploitation (innovator/orphan)

For the innovator and orphan industry segments, pharmaceutical companies are required to obtain strong patent protection for newly discovered drugs to secure financial viability. Patents usually last around 20 years but ultimately are negotiated for each new drug separately, for which the producer must possess the capabilities to obtain and exploit intellectual property protection. Intellectual property exploitation does not apply to generic drugs.

Effective lobbying (orphan)

The development and marketing of orphan drugs are hardly profitable without government incentives due to the very small market that they serve and the very high R&D costs to develop the drug. Governments, therefore, provide incentives to pharmaceutical companies to develop orphan drugs to cure rare diseases and to enable pharmaceutical companies to generate a profit. Government incentives may be provided in many different forms, ranging from subsidies to advertising allowances or tax reductions. Without having substantial lobbying power to negotiate government incentives, pharmaceutical companies may not be able to be successful in the orphan drug industry.

Pricing (generic)

Pricing is a key success factor for the generic drug segment. The lack of patent protection, easy imitation of products, and less importance of branding drives competition for prices in the generic drug segment. A biopharmaceutical company producer in the generic drug segment must, therefore, have an organizational structure that permits competing in such a competitive environment. For example, Pfizer's very large R&D

department, which is required for innovator drug research, is often sought to have hindered the excessive success of Pfizer's generic drug brand, Upjohn, due to the high overhead costs.

2.4 Strategic Group Analysis

For a better understanding of the global competitive landscape, we applied a strategic group analysis. The market participants in the prescription drug industry were positioned according to the industry segment they serve and their size, measured in total annual revenue from prescription drugs.

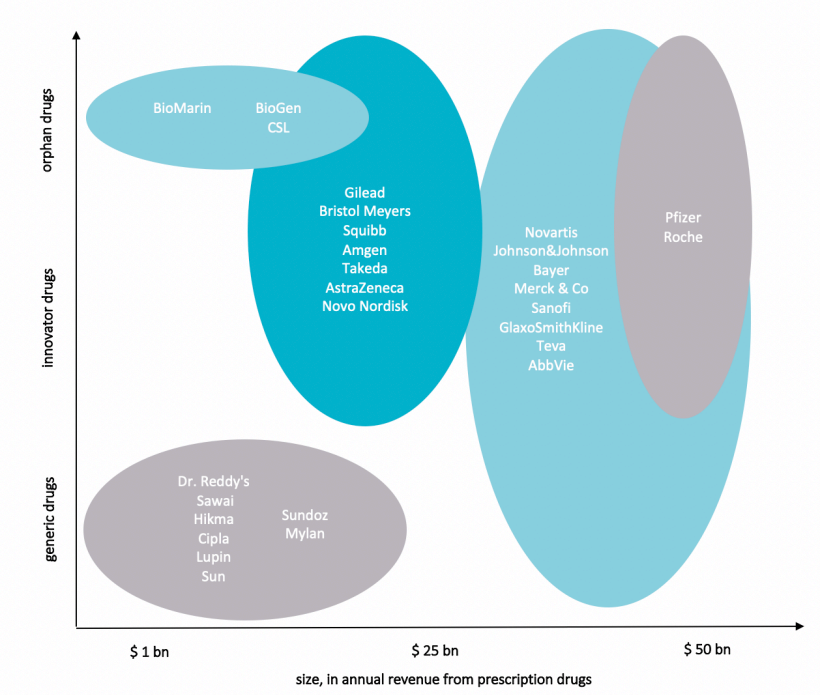


Figure 2 - Strategic group analysis of the prescription drug industry

The analysis finds that there are three large clusters and two smaller clusters in the prescription drug industry. We see one cluster of very large biopharmaceutical companies, with prescription drug revenues of about $ 30 bn to $ 50 bn, that serve all three industry segments. The second cluster includes one size smaller companies, although with prescription drugs of about $ 10 bn to $ 5 bn still very large ones, that focus only on patented drugs and do not serve the generic drug industry. The third large industry cluster is pharmaceutical companies that focus only on generic drugs with prescription drug revenues between $ 1 bn and $ 18 bn. One interesting group observation is the existence of two very large pharmaceutical companies, Roche and Pfizer, which are in prescription drug revenue comparable to the largest industry players but abstain from serving the generic drug market (note: Pfizer recently divested their majority share in their generic drug subsidiary called 'Upjohn'). The fact that Roche and Pfizer do not fall behind prescription drug revenue confirms the findings earlier in this chapter that global generic drug revenues are very small compared to patented drugs. Lastly, one niche cluster is found with biopharmaceutical

companies that strongly focus on orphan drugs, namely BioMarin, CSL, and BioGen, with prescription drug revenues of about $1 to $ 10 bn. [11][12][13]

2.5 Industry Value Chain

The industry value chain analysis serves to understand the sequence of the various stages in an industry, from the production of a product to final consumption. The following depicts the value chain for the prescription drug industry for patent-protected drugs:

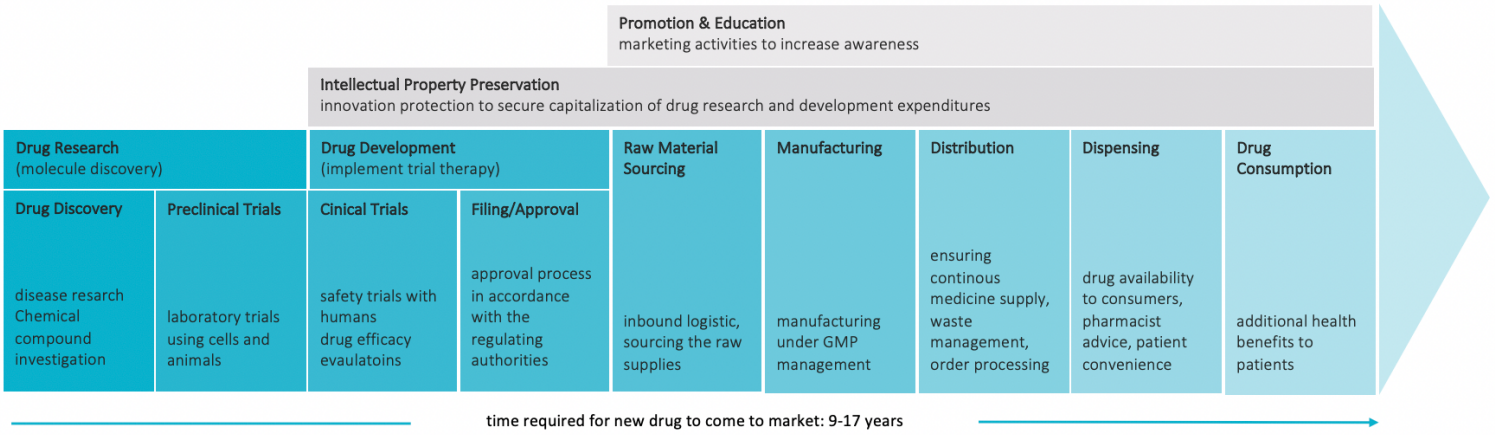


Figure 3 - Value chain analysis of the prescription drug industry

The prescription drug industry value chain can be summarized in five major phases: The first phase, drug research and development (R&D) involving the identification, synthesis, and screening of chemicals for therapeutic efficacy. Once a lead compound has been identified through this process then the drug will be then brought to the market (drug development). This phase ends with the intellectual property protection and licensing of the new medicine in the countries where the drug going to be manufactured. The second major phase encompasses the procurement process of getting raw materials such as active pharmaceutical ingredients (APIs) and packaging materials and delivering them to the manufacturing sites. Manufacturing is the third phase and it covers the actual manufacturing processes of medicines, quality control, and drug testing. Following this, the fifth phase is a distribution that is in most markets carried out by importers and wholesalers, linking manufacturers and retailers, ensuring a continuous supply of medicine, regardless of geographical location and required portfolio of medicine. Dispensing describes the mechanism of bringing the drug to the consumers, which involves many stakeholders such as doctors via prescriptions, pharmacists, or hospitals (private, public, or army hospitals). At the end of the value chain, we find the consumer, or the patient, who gets to consume the drug.

Alongside the primary value-creating activities, we find Promotion and Education as well as Intellectual Property Preservation the value-creating activities that complement the primary activities throughout most stages. The entire process from drug discovery to availability on the market takes between 9 and 17 years for most new drugs. Note that this value chain represents the phases in the patent-protected industry.

[11] https://www.pharmaceutical-technology.com/features/biggest-generic-pharmaceutical-companies-2018/
[12] https://info.evaluate.com/rs/607-YGS-364/images/EvaluatePharma%20Orphan%20Drug%20Report%202019.pdf
[13] https://www.ifpma.org/wp-content/uploads/2016/02/IIHI_Report_Pharma_Value.pdf

3 Strategic Posture

A strategic posture is an approach that company leaders take in applying a business' strengths to the current and long-term needs of the marketplace. Pfizer's strategic posture is to "Shape the Future" and evidence of this is found by the reference to the company "Leading the conversation" in the pharmaceutical industry, with a strong emphasis placed on innovation, empowerment, different thinking and challenges.

Pfizer mentions: *"At Pfizer, we continually strive to raise the bar – in our* ***science****,* ***patient impact*** *and even our* ***internal culture****. And as we evolve into a company with a* ***singular focus on innovation****, the impetus to challenge convention and spark new thinking is stronger than ever."*[14]

From applying simplicity principles at work to delivering medicines by drone, the "innovation mindset" and motivation to create positive change in the world is a powerful reflection of Pfizer's inspiration – and a reminder to keep thinking differently.[15]

3.1 Mission

Pfizer's mission is "Providing Assistance to Underserved Patient Populations and Addressing Health Disparities" an official statement that seeks to impart its global ideals and guidelines for the future.

Pfizer is aiming to commit to easier access to medicine worldwide and is targeting health inequality. For more than 30 years, Pfizer has been helping eligible U.S. patients in need to get access to their medicines through a range of assistance programs.[16] Pfizer elaborates more on its mission as follows: "Beyond providing medicines to those in need, we understand that health inequality is a significant public health issue across the country. Lack of or limited access to quality health care is an issue that disproportionately affects multicultural communities. Through Pfizer's Multicultural Center of Excellence, we focus on improving health equity across medically underserved populations in the U.S. by partnering with key multicultural groups whose mission is to ensure the patients they serve can access the health care they need and reduce health disparities."[17]

Since Pfizer's main market is the U.S., especially there the issues of health disparity and unequal access to medicine are extremely important and need to be addressed. However, Pfizer operates in the whole world and promotes its mission also outside of the U.S.

3.2 Purpose & Values

Pfizer's purpose: **"Breakthroughs that change patients' lives – fuels everything we do and reflects our passion for building on our legacy as one of the greatest contributors of good to the world."** Pfizer considers itself a purpose-driven, innovative company that attracts and retains the best people, and knows how to unleash the power of those people.[18]

[16, 15] https://www.pfizer.com/files/investors/financial_reports/annual_reports/2019/our-bold-moves/lead-the-conversation/conversations-that-inspire-us-to-think-differently/index.html, retrieved May 5th 2020

[16, 19] https://www.pfizer.com/files/investors/financial_reports/annual_reports/2019/our-bold-moves/transform-our-go-to-market-model/providing-assistance-to-underserved-patient-populations/index.html, retrieved April 26th 2020

[17,21,22]https://www.pfizer.com/files/investors/financial_reports/annual_reports/2019/our-purpose/living-our-purpose/index.html, retrieved April 26th 2020

Moreover, each word in Pfizer's purpose statement has meaning and reflects the value Pfizer attempts to bring to patients and society:

- "Breakthroughs - These are the innovations, scientific and commercial, that we seek to deliver every day. All colleagues, regardless of role, level or location, strive for breakthroughs every day".
- "Change - We want to do more than simply improve patients' medical conditions; we want to dramatically change their lives for the better".
- "Patients' lives - We consider not only patients but everyone they touch – including their friends, families, and caregivers – and everything they love to do. It's an intentionally holistic view".[19]

Furthermore, Pfizer communicates this as follows: "Our purpose ensures that patients remain at the center of all we do. We live our purpose by sourcing the best science in the world; partnering with others in the health care system to improve access to our medicines; using digital technologies to enhance our drug discovery and development, as well as patient outcomes; and leading the conversation to advocate for pro-innovation/pro-patient policies. Every decision we make and every action we take is done with the patient in mind – and to nurture an environment where breakthroughs can thrive."[20]

Since Pfizer is transforming its business and moving away from its previous over the counter ("OTC") and generic drugs businesses into "becoming a more focused global leader in science-based innovative medicines", one of the essential striking words in its purpose are the breakthrough and change. Not surprisingly patient care and people are also part of its purpose and mission statements. In fact, Pfizer's main goal is medical innovation and cure discovery, by providing people with access to medicine and by improving their quality of life.

Building on its purpose statement, Pfizer defined four values to achieve the commitment stated in the purpose and mission statements and, at the same time express its ideas and culture. These values are courage, excellence, equity and joy.

- "Courage. Breakthroughs start by challenging convention, especially in the face of uncertainty or adversity. This happens when we think big, speak up and are decisive".
- "Excellence. We can only change patients' lives when we perform at our best together. This happens when we focus on what matters, agree who does what and measure our outcomes".
- "Equity. We believe that every person deserves to be seen, heard and cared for. This happens when we are inclusive, act with integrity and reduce health care disparities".
- "Joy. We give ourselves to our work, but it also gives to us. We find joy when we take pride, recognize one another and have fun"[21].

Pfizer began a series of actions designed to strengthen its businesses and transform the firm into a singularly focused, science-driven company. Therefore, Pfizer seeks more sustainable growth, moving forward from an era of revenue stabilization. Thus, in 2019 Pfizer launched its Purpose Blueprint campaign that should help the company to deliver its message and guide the firm into the future.

[21]https://www.pfizer.com/files/investors/financial_reports/annual_reports/2019/our-purpose/our-values-and-culture/index.html, retrieved April 26th 2020

The Blueprint includes five "bold moves" confirming that all the expenses of Pfizer are to be aligned with these moves and to bring value-added to the society, patients and other stakeholders:

1) "Unleash the power of our people. We are further building on our inclusive, engaging work environment to recognize and reward both performance and leadership and empower all colleagues to bring their best selves to work for the benefit of patients.
2) Deliver first-in-class science. We aim to create and source the best science in the world. We will bring forward only our most promising and transformational products within our six therapeutic areas – with a focus on getting them to patients as quickly as possible.
3) Transform our go-to-market model. We are partnering with others to address the patient affordability challenge by exploring new, flexible payment approaches, including value-based agreements, and being bold in how we expand access to our medicines.
4) Win the digital race in pharma. We are using big data and such digital technologies as machine learning and artificial intelligence to expedite the drug discovery and development process and enhance patient experiences and outcomes.
5) Lead the conversation. We are engaging with policymakers and other stakeholders to advocate for policies that allow innovation to flourish while ensuring patient access to the latest therapies – all while communicating the value our science brings to society."[22]

The Purpose Blueprint campaign which was launched last year is connected with the recent organizational changes within the company: organizational restructuring, divestment in the non-biopharma business, focus on innovative biopharmaceuticals and R&D. Thus, bold moves #2, 4, and 5 (Deliver first-in-class science, Win the digital race in pharma and Lead the conversation) specifically indicate the willingness of Pfizer to be the first in innovation and focus on scientific projects. Bold moves #1 and 3, on the other hand, emphasize social responsibility and sustainable growth. It is worth mentioning that due to the recent organizational changes, the company adjusted its values and mission statement towards more innovation, science, digitalization, and medical modernization.

3.3 Culture

Due to the rich history of the enterprise and diverse M&A activities throw-out the years, Pfizer has established a very unique corporate culture in terms of diversity, inclusion, integrity, value contribution, and level of satisfaction. Pfizer's managers use the visionary style and participatory style of leadership.

"To be successful, the first thing a business must get right is its culture. Colleagues must have a deep connection to what they do, they must share a common set of values about how they do that work, and they must be empowered. Our colleagues are passionate about their ability to impact the lives of patients. It's this passion, underpinned by our OWNIT! culture, that brings us together and will drive our success in the year ahead." Albert Bourla, Chief Executive Officer

"I believe in the power of Pfizer people, and the strength of our OWNIT! Culture. Our colleagues' compassion and dedication to patients and our Purpose was evident in all they accomplished this year, and our culture

[22] https://www.pfizer.com/files/investors/financial_reports/annual_reports/2019/chairman-ceo-letter/index.html, retrieved April 26th, 2020

inspires their vision and nurtured their talent. It's what guides all of us and enables our people to do their very best work, every day." Dawn Rogers, Executive Vice President, Chief Human Resources Officer

Following facts confirming the strong corporate culture at Pfizer:

- The level of women's representation at the Vice President reached 32% globally
- The representation level of minorities in the U.S. at the Vice President reached 18%
- Diverse internal programs on inclusion and commitment ongoing
- Gender parity programs
- The Best Place to Work for LGBT Equality
- Different studies and tracking of diversity
- Strong bonding with certified Minority Women Business Enterprises suppliers
- Diverse mentorship program
- "Best of the Best Award" for the past years
- "Top Corporation Award" for the last decade

Pfizer indeed reached very high results in terms of employee satisfaction and is seen as a very attractive employer. This perfectly makes sense, since the company positions itself as an innovational company with a high market share and large geographic coverage and innovational companies tend to have rather a disruptive than a bureaucratic model. The invention of new drugs is one of the main core activities of Pfizer, so the main focus is put on people and their diversity because diversity brings new ideas and encouraged to contribute new concepts and solutions.

However, by looking at different job satisfaction websites like glassdoor, one can observe that the overall job satisfaction of Pfizer's employees globally is only 3.8 out of 5, pointing out an issue with a work-life balance, a high workload that has to be taken home, good compensation and salary model though.

Figure 4 - Pfizer's inspiration and aspiration statements

Interestingly, in 2000 when Pfizer acquired Warner-Lambert, it adopted Warner's practice to address its employees as "colleague" rather than a traditional "employee", showing more respect for own people. Moreover, Pfizer started to provide the message "No jerks" in terms of behavior to its new joiners, expressing a respectful way of behavior as a must in the firm. Further on, Pfizer adapted a "Straight Talk" practice of giving and receiving feedback in a way that safeguards relationship and builds trust between employees.

Another curious fact about Pfizer's culture is that everyone is held accountable for her/his actions, leading to the topic of shared responsibility and the chance of raising the voice, asking questions, saying "no" when needed.

Pfizer is a very good example of a company intentionally shaping its culture. Identifying culture and strengthening cultural values was one of the main focuses of Pfizer's management for many years.

4 Organizational Analysis

This section aims to outline the core competencies and the potential strategies to exploit Pfizer's opportunities and threats. To collect the required information for these analyses, chapters 4.1 and 4.2 will deal with Pfizer's resources and capabilities. Out of these resources and capabilities, the core competencies will be carved out by evaluating if these resources or capabilities are essential for Pfizer's sustainable value creation. Sequentially, in chapter 4.3 these core competencies will be picked up and applied to the VRIO framework to identify the true sustainable competitive advantages. Succeeding the VRIO framework, the strategic fit analysis will be carried out in chapter 4.4 to see if these sustainable core competencies are meeting the market requirements. The strategic fit will be followed by the strategic intent analysis, which highlights the development of Pfizer's strategic fit over time. To conclude the chapter of the organizational analysis, the new SWOT analysis will be applied to Pfizer and the pharmaceutical industry to suggest strategies on how to exploit opportunities and overcome threats that Pfizer is facing in the market.

4.1 Resources

As resources of a company, all factors are considered that are either held or controlled by a company. These factors can be grouped as follows: Human Resources, Financial Resources, Physical Resources, and Organizational Resources.

Human Resources:

- In 2019, 88.300 employees worked for Pfizer globally.
- An extensive R&D department equipped with industry-leading experts spread over eleven different R&D divisions
- Pfizer is steered by an experienced management team, e.g. Albert Bourla, the current CEO, who has worked for the company for more than 25 years.

Financial Resources:

The major 2019's year-end financial resources accounted for the following:

- Total assets grew to $167,489M from $159,422M in 2018
- Market Cap of $216.8b, compared to:
    - $181.1b by March 31st, 2020 (-16.5% Quarter over Quarter)
    - $211,6b by December 31st, 2018 (+2.5% Year over Year)

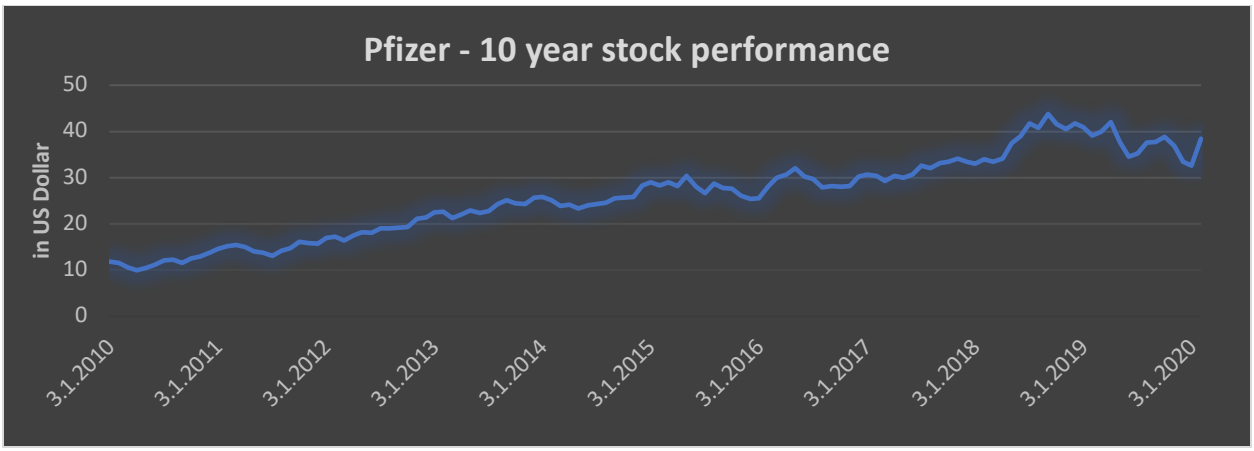


Figure 5: Pfizer's 10-year stock performance

	Year Ended December 31,		
(MILLIONS OF DOLLARS)	**2019**	2018	2017
Revenues	**$ 51,750**	$ 53,647	$ 52,546
Cost of sales[a]	**10,219**	11,248	11,228
% of revenues	**19.7%**	21.0%	21.4 %
Selling, informational and administrative expenses[a]	**14,350**	14,455	14,804
% of revenues	**27.7%**	26.9%	28.2 %
Research and development expenses[a]	**8,650**	8,006	7,683
% of revenues	**16.7%**	14.9%	14.6 %
Amortization of intangible assets	**4,610**	4,893	4,758
% of revenues	**8.9%**	9.1%	9.1 %
Restructuring charges and certain acquisition-related costs	**747**	1,044	351
% of revenues	**1.4%**	1.9%	0.7 %
(Gain) on completion of Consumer Healthcare JV transaction	**(8,086)**	—	—
% of revenues	**15.6%**	—	—
Other (income)/deductions—net	**3,578**	2,116	1,416
Income from continuing operations before provision/(benefit) for taxes on income	**17,682**	11,885	12,305
% of revenues	**34.2%**	22.2%	23.4 %
Provision/(benefit) for taxes on income	**1,384**	706	(9,049)
Effective tax rate	**7.8%**	5.9%	(73.5)%
Income from continuing operations	**16,298**	11,179	21,353
% of revenues	**31.5%**	20.8%	40.6 %
Discontinued operations—net of tax	**4**	10	2
Net income before allocation to noncontrolling interests	**16,302**	11,188	21,355
% of revenues	**31.5%**	20.9%	40.6 %
Less: Net income attributable to noncontrolling interests	**29**	36	47
Net income attributable to Pfizer Inc.	**$ 16,273**	$ 11,153	$ 21,308
% of revenues	**31.4%**	20.8%	40.6 %

Figure 6: Pfizer's consolidated statement of incomes (by Dec. 31st, 2020)

Physical Resources:

The major 2019 year-end physical resources accounted for the following (excluding accumulated depreciation):

- Owned land and land improvements of $516M
- Total buildings and building equipment worth $10,068M
- Total machinery and equipment of $12,281M
- Other Property, Plant and Equipment worth $7,890M
- 453 owned and leased properties, amounting to approximately 47 million square feet.

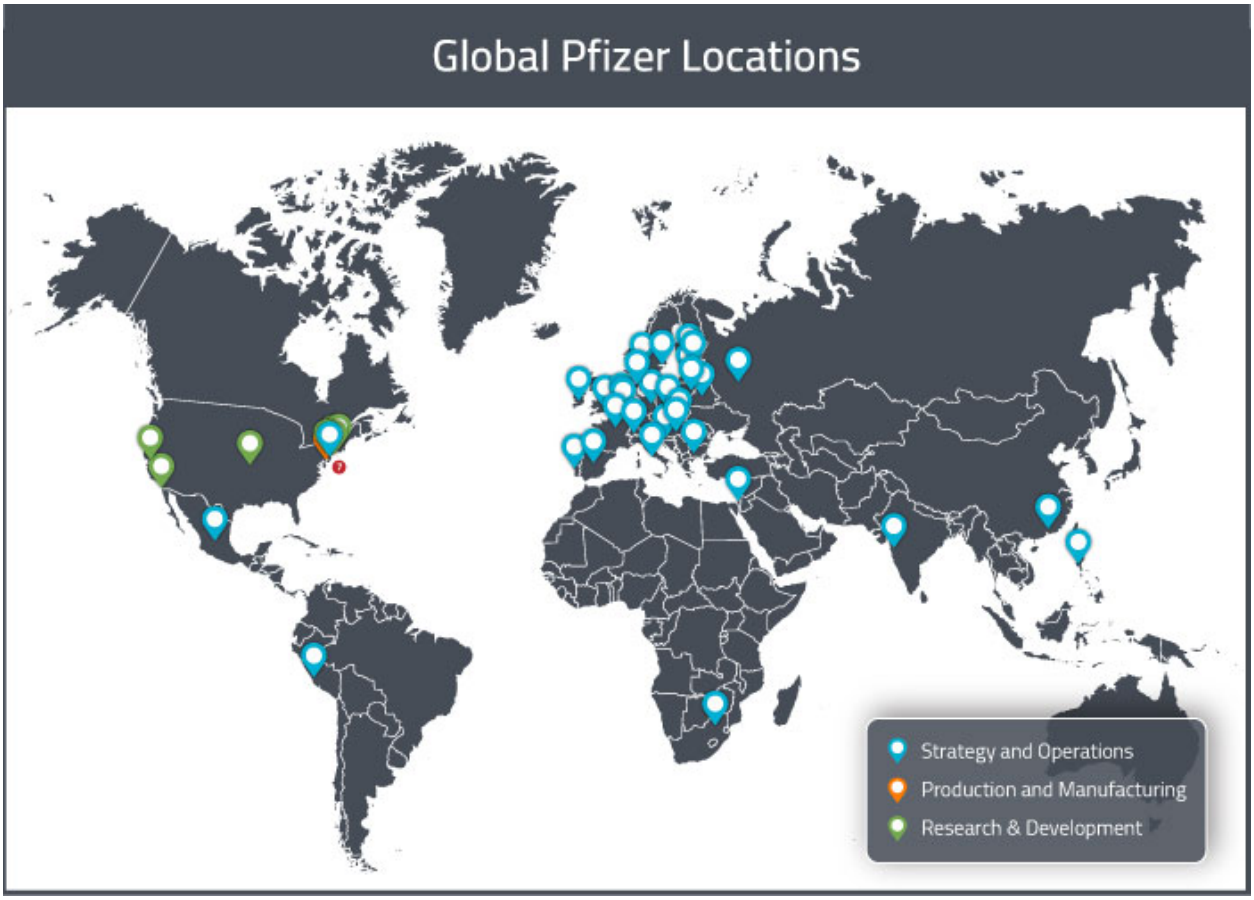


Figure 7: Global Pfizer locations

Organizational Resources:

The organizational resources are key for a pharmaceutical company as they include patents, trademarks, and the company's reputation:

- Pfizer's brand value and recognition enjoy high popularity, high sales, and a unique bond with the consumers
- First position in the "Top50 Global Pharma Companies 2019" by Pharmaceutical Executives
- Patents on high selling products e.g. Prevnar (expiring 2033), Lyrica (expiring 2026), Xeljanz (expiring 2025)

- More than 170 years' experience in the pharma business
- Existing industry partnerships (e.g. GSK, Akcea Therapeutics, Viatris)
- Strong governmental relations (Highest spent on Lobbying activities with $7.1M in H1 2019)
- Trademark Greenstone as flanker brand for generics
- Pfizer's Diversity Program, to understand the diverse customers the company needs to have a diverse organization
- The international distribution network, selling in 150 countries
- The company has a unique and diversified product portfolio. This has allowed it to penetrate different consumer groups and maintain income from different streams. In turn, that provides the business with a strong financial cushion.

4.2 Capabilities

The integration of the resources within the company requires that management and the organization develop certain capabilities. These capabilities drive the company's activities and eventually create sustainable value. Sustaining an advantage with these capabilities demands that management is dynamic in their activities and adjust to the market requirements. Additional capabilities must be built up or existing capabilities must evolve to stay competitive: all resources should be exploited by the company.

Research & Development

The R&D activities (see below) in the pharmaceutical industry are key to stay ahead of the competition, especially for Pfizer that is mainly focused on patent-protected drugs. Only through the constant development of new drugs whilst catering to the dynamic and demanding market requirements, will Pfizer stay ahead of its competition.

- Competitive R&D department
- Pfizer is following the first mover approach in the drug industry, developing new patents to extend the current portfolio of patent-protected drugs and prepare for the expiration of current patent-protected drugs
- Strong R&D pipeline: 91 R&D projects in 6 therapeutic areas, 6 programs in registration, 21 programs in the final stage before registration
- "Win the digital race in pharma" as one of Pfizer's corporate bold moves means using new technologies to improve the R&D processes, e.g. big data and machine learning, decreasing human errors and increases precision

Figure 8: Pfizer Pipeline Snapshot as of April 28, 2020

Financials:

To survive in the competitive environment of the pharmaceutical industry Pfizer has to make smart financial decisions to ensure the satisfaction of the shareholders on the one hand and, on the other hand, to have sufficient funds to finance the ambitious R&D activities.

- Remaining profitable in a highly competitive market
- Ensuring a constant flow of dividends to shareholders averaging at a 3% to 4% yield
- Ability to grow fast through Mergers & Acquisitions

Production:

Pfizer's industrial footprint consists of 60 manufacturing plants globally ensuring the supply of products to over 150 different countries. Pfizer needs to exploit this resource to secure the availability and quality of the products.

- Pfizer produces premium quality drugs
- Making use of the economies of scales effect
- Precise cost control to maintain the price for the customers

Marketing:

The marketing of a company influences the buying behavior of the consumers and can be the main differentiator. Branding and promotions are the means to create a distinct perception of consumers.

- Honest and trusted customer perception also fulfilling the emotional and psychological needs of customers
- The company has a unique blend of marketing skills
- Usage of multiple marketing channels, e.g. newspaper, social media, television
- Pfizer creates videos with its scientists to explain the effects of the drugs to end customers
- Every product has some distinct features which make consumers memorize the Pfizer brand. This is especially important in the off-patent market
- Pfizer uses creative advertisements to increase its brand recognition

Distribution:

Capabilities in distribution are key to reach the end customers. In the pharmaceutical industry typically, the manufacturers are selling the drugs to wholesalers that distribute it finally to the users.

- The well-implemented distribution network for healthcare products
- Quick expansion in other countries possible due to experience and high diversity in the company

Service:

To maintain and strengthen customer relationships, service capabilities are required. For end customers that can use search engines these days, it is even more important for pharmaceutical companies to offer an educational service to these customers.

- Broad service platform with FAQ, Mail and phone contact

- News blog to update the community about new drugs and developments
- Created own "Hospital" commercial group within the Biopharma group to take special care of the hospitals within the business group

Sustainability:

The topic of sustainability has an increasing significance in today's business world. In most western industrial nations, companies are screened for their environmental footprint, and therefore, targets are imposed on countries and companies to improve the same.

- "Pfizer's Green Journey" is a program that defines Pfizer's sustainability goals up to the end of 2020

Transversal:

The soft parameters of transversal capabilities have an ever-increasing weight in the time of war for new talent. High potential candidates consider these soft parameters when picking the next company to work for.

- Flat hierarchies compared to industry competitors
- High retention levels of Pfizer's employees
- Top-ranked LGBT index
- Diverse culture due to a long history of M&As
- Top 50 of the world's best employers

4.3 Analysis of the Core Competencies (VRIO Framework)

The VRIO analysis of Pfizer will analyze the top six competencies according to four characteristics. Firstly, each competency will be evaluated for its value (V) that it creates for customers. Secondly, the rarity (R) will be analyzed by comparing the competency with the competencies of the competition. Thirdly, the ability or financial feasibility for competitors to develop the competency will be checked by considering the imitability (I). Lastly, the competency must be exploited by the organization to be a sustainable core competency that can display a competitive sustainable advantage of the company. These six competencies were chosen by combining key resources and capabilities of Pfizer that can be identified as the strengths of the company.

	V Valuable	R Rare	I Imitability	O Organization	Core Competency	Competitive Advantage
Product line and product pipeline (R&D)	✓	✓	✓	✓	✓	Sustainable
Diverse and specialized product portfolio	✓	✓	✓	✓	✓	Sustainable
Successful incorporation of merged entities	✓	✓	✓	✓	✓	Sustainable
Brand perception and marketing campaigns	✓	⊘	✓	✓	⊘	Parity
Strong global presence	✓	⊘	✓	✓	⊘	Parity
Flexible operating structure	✓	⊘	⊘	✓	⊘	Parity

Figure 9: VRIO Framework applied to Pfizer Inc.

In what follows, these core competencies will be evaluated individually by the four characteristics to determine which competency may be positioned as Pfizer's competitive advantage.

1. Product line and product pipeline (R&D)

Valuable: Pfizer's R&D department allows the company to have a full pipeline of new products, currently 91 products between phase 1 and registration. These pipeline items can result in new drugs curing rare diseases or even pandemics such as Covid19. Therefore, the R&D pipeline displays a great value for customers as it can be impactful to many lives.

Rare: Compared to the R&D pipelines, Pfizer has 30% more items in the pipeline compared to the biggest competitor J&J. Other main competitors as Novartis or Merck have approximately half the size of Pfizer's R&D pipeline, therefore it is evident, that Pfizer has the largest pipeline and therefore, this competency can be declared as rare.

Imitability: Pfizer's established product lines create the large cash flows needed to fund the average $800m in development costs per new drug. Increasing the number of projects, resulting in a higher number of new patents, is not only costly but also related to the available human resources, the researchers of each company. The product pipeline through the strong R&D department is displaying an inimitable competency for the company because it has become part of the company's system and culture.

Organizational: With a strong pipeline and an overall high outcome of the R&D pipeline resulting in market-leading new patents, this competency will be seen as organizationally exploited competency.

2. Diverse and specified product portfolio:

Valuable: A diversified and specified product portfolio gives customers the option to choose between patent-protected and generic drugs or vaccines. These are available for common diseases and also for rare diseases, making Pfizer a player in the commodity pharmaceutical industry as well as in the more niche pharmaceutical segments. Furthermore, the diverse product portfolio allows Pfizer to access multiple markets, supplying the company with multiple revenue streams, decreasing the risk if one market is underperforming. The access to multiple segments gives Pfizer a strong financial cushioning to the business.

Rare: Pfizer produces multiple high-selling patent-protected drugs, e.g. Prevnar, Lyrica, and Xeljanz. Per patent law, only Pfizer and licensed partners can produce all patent-protected drugs.

Imitability: For competitors to imitate the diverse portfolio of Pfizer they must spend a lot of money in developing similar patent-protected drugs to add them to their portfolio. These similar products can still not be accepted by customers as they will have slightly different chemical substances. To extend the portfolio with generics and other patent-protected drugs, the competition can also acquire companies that hold such patents, still, this will not make the other players competitive on the patent-protected market of Pfizer.

Organizational: Pfizer is currently working on restructuring the organization, placing more emphasis on its biopharma products. This does not lead to a decrease in the complexity and diversity of the product portfolio since the generic portfolio will be held as part of the company merged with the generic portfolio of another company. Therefore, Pfizer retains the diverse and specified product portfolio, adjusting the focus on the more profitable biopharma business

3. Successful incorporation of merged entities:

Valuable: The value for its customers is created by Pfizer's flexibility and ability to pursuing Mergers and Acquisitions (M&A). Through M&As the company can add new products to its portfolio and customers can choose from a wider selection of Pfizer products. Moreover, the financial power supports Pfizer's R&D activities which lead to further portfolio extensions.

Rare: To be able to invest flexibly into M&A a company requires cash to pay out the entity that is acquired. On average over the past four years, Pfizer had available cash resources of $17b, which when compared with the remaining competition in the top10 pharma companies, equates to nearly double the amount of cash. Only Johnson and Johnson has a comparable cash balance. Therefore, Pfizer's financial position regarding M&A can be seen as rare.

Imitability: To be as active and flexible in M&A is hard to imitate for competitors, as it is very costly and requires additionally a strong lobby and a whole organization supporting M&A activities. Pfizer spent $219m in lobbying expenses, accounting for more than 50% of the overall lobbying expenses of the pharmaceutical industry in the US ($422m).

Organization: Pfizer's successful M&A track record is another proof of its great ability to integrate acquired companies within the Pfizer culture. In the last five years, Pfizer acquired eight different companies from the pharmaceutical and therapeutics segments. The total price for all acquisition accounts to over $45b, therefore one can conclude that the size and the financial position of the company are well exploited.

4. Brand perception and marketing campaigns

Valuable: Pfizer has a unique blend of marketing skills, allowing to increase and capitalize on the brand perception that the company builds up over the past 170 years. Pfizer created a trusted brand within the pharma industry, that is known for its ruggedness, sophistication, and competence for its drugs delivered with the highest quality standards.

Rare: In the brand finance ranking of 2019 for the pharmaceutical industry, Pfizer was ranked in position number three with a brand valuation of $4.8b, Roche and Bayer being ranked in the first two places with

each over $6b valuations. Other analyses are showing that Pfizer's brand does have a good reputation, though it does not stand out in a competitive landscape. Hence, this competency will be rated as not rare.

Imitability: The pharmaceutical industry has high entry barriers as described in chapter 4.2, thus new brands have to undergo large investments and efforts to build up a brand reputation such as a pharmaceutical player that has been around for over 170 years. Out of the top five of the biggest pharmaceutical companies by revenue, four of them were found before the year 1900.

Organizational: Pfizer is capitalizing on its brand perception and reputation through its marketing mix. The mix consists of different campaigns to increase awareness at the consumers and to teach the consumers about the effect and the development process of their drugs to make the company more transparent towards the outside world.

5. Strong global presence

Valuable: The physical and virtual availability of Pfizer is incorporated in its distribution network and indicated its strong global presence. This competency is valuable because it is necessary to scale the business and to access new emerging markets that have an increasing health consciousness. These emerging markets are increasingly using pharmaceutical drugs, preferably from proven global brands, and the middle and upper classes of these countries also have the financial means to afford the drugs from overseas.

Rare: Even though Pfizer is operating over 60 plants globally and selling its products in more than 120 markets, this does not make its global presence a rare competency. Mainly all the top ten pharmaceutical companies have access to a global distribution network and are currently targeting emerging markets to gain market share.

Imitability: Setting up the global distribution network through partners and building up local sales teams to cover local customers is a process that takes financial resources and patience. The diverse requirements per market can be one of the largest entry barriers for new players in the market and are hard to overcome. Pfizer's *per se* emphasizes its diverse working culture, which enables Pfizer to adapt to local requirements and habits more quickly.

Organizational: This competency is fully exploited by the firm; Pfizer is working on a global scale with factories and subsidiaries around the globe. Especially emerging markets are in the focus of the company, requiring the diverse culture that was created over the past years.

6. Flexible operating structure

Valuable: The company has installed progressive means of controlling costs and maintaining economies of scale in their global manufacturing footprint. This leads to maintained prices for end consumers and only in special circumstances are additional costs passed on to the market. Flat prices and economies of scale allow the products to be easily affordable for the company's target audience. Especially after patent-protected drugs expire it is crucial to have a lean cost structure to compete with the generic drugs that will flood the market after the patent expiration.

Rare: Pfizer's operating structure was not rated as rare due to the strong competition in the pharmaceutical industry. Competitors are working with similar effective operations on a global scale, allowing these players to have a product that has parity with Pfizer's. In this highly competitive market, the economy of scale and

a high focus on premium quality of the drugs is the market standard amongst the biggest pharmaceutical players.

Imitability: To manufacture drugs in a lean and flexible way the barriers for new entrants are relatively low, particularly for the generic drug market, where the efforts to undertake for new entrants are low to medium, compared to the market size that they are targeting. These companies entering the market do not have the same bulky cost structure as the large pharmaceutical companies do because they do not require as many administrative employees and can focus purely on the production of the drugs.

Organizational: The company is organized around the R&D and operational departments with over 60 plants globally. Pfizer is competitive in the pharmaceutical industry due to its lean and flexible operating structure, which is crucial, especially after the patent expiration of a drug.

4.4 Strategic Fit & Strategic Intent

The strategic fit describes the extent to which a company is addressing the opportunities of an external environment with its internal resources, capabilities, and competencies. Therefore, the framework of the strategic fit is matching all previously identified sustainable core competencies with the industry's key success factors that were identified in chapter 4.3. Each intersection will be evaluated and ranked with a score between 1 and 5 (1 = core competency is not exploited for this key success factor; 5 = core competency is fully exploited for this key success factor). Finally, we will take the average from each key success factor to see, how well the company is positioned within the industry and where potential gaps are. The outcome of the strategic fit will highlight how well the competitive advantages of the company are aligned with the requirements of the market.

For the example of Pfizer, we looked at all key success factors and ranked each with an average score according to the exploitation of the core competencies. All three main segments were analyzed separately to see the strategic fit per segment. In our analysis, the core competency of undertaking mergers and acquisitions is also related to Pfizer's strong financial position, which is beneficial for multiple business activities of Pfizer.

		Key success factors in the industry for innovator drugs		
		Effective distribution	Product innovation & efficacy	Intellectual property exploitation
Pfizer's core competencies	Product line and product pipeline (R&D)	-	5	4
	Diverse and specialized product portfolio	4	5	-
	Successful incorporation of merged entities	5	5	5
	Average score	4.5	5	4.5
	Total average score	**4.7**		

Figure 10: Pfizer's strategic fit for the innovator drugs industry

		Key success factors in the industry for orphan drugs			
		Effective distribution	Product innovation	Intellectual property exploitation	Effective Lobbying
Pfizer's core competencies	Product line and product pipeline (R&D)	-	5	4	5
	Diverse and specialized product portfolio	4	5	-	-
	Successful incorporation of merged entities	5	5	5	5
	Average score	4.5	5	4.5	5
	Total average score	**4.8**			

Figure 11: Pfizer's strategic fit for the orphan drug industry

		Key success factors in the industry for generic drugs		
		Marketing	Pricing	Availability
Pfizer's core competencies	Product line and product pipeline (R&D)	-	3	-
	Diverse and specialized product portfolio	5	3	5
	Successful incorporation of merged entities	4	4	5
	Average score	4.5	3.3	5.0
	Total average score		**4.3**	

Figure 12: Pfizer's strategic fit for the generic drug industry

According to the results, we can conclude that Pfizer has a good strategic fit with all segments it serves from innovator and orphan drugs to the generic drugs. Pfizer's R&D strengths count favorably in this analysis since Pfizer has one of the most valuable and expensive R&D departments globally. On the one hand, the R&D intensive innovator and orphan drug segments benefit from this R&D focus. On the other hand, the generic drug segment has a comparably lower strategic fit due to the high overhead costs of Pfizer's R&D and marketing departments.

The strategic fit analysis is a static view of Pfizer's current company's core competencies: in fact, it does not show how the competencies developed over the years. Therefore, to complete the strategic view of the company on the key success factors, the strategic intent analysis was conducted to highlight which changes the company has applied within the company to stay ahead or to further progress in certain key success factors.

Key Success Factors	Pfizer's inital core competencies	Pfizer's core competencies developed over time
Product Innovation & efficacy	Keeping a diverse product portfolio, M&A to extent the portfolio, internal R&D creating more patents	Merging generics brand with Mylan to keep focus on innovating new drugs
Availability & Effective distribution	Strong in domestic U.S. Market, Europe and Japan	Maintained strong position in industrialized countries, more focus towards emerging economies (China, Russia, Brazil)
Intellectual property exploitation	Systematic reviews of existing patents	On-patent drungs get exploited within Pfizer's Bipharma division, still limiting dependency on single blockbuster drugs to spread risk
Marketing	Well known brand with over 170 years of experience	More focus on exploitation of brand name of Pfizer and blockbuster products, spun-off of several brands to refocus.
Effective Lobbying	Pfizer is one of the strongest lobbying parties in the U.S	Pfizer has the strongest lobby in the U.S. of all pharmaceutical players, overall 50% share of all lobbying expenses
Pricing	Use of economies of scale, cost-control in all 60 manufacturing facilities	Cost-down cluture at Pfizer, donating drugs to development countries, no passing on of extra cost to the end consumer

Figure 13: Pfizer's strategic intent

4.5 SWOT Analysis

The main purpose of a SWOT analysis is to identify the strategies that the company can utilize to exploit external opportunities or threats, and build on & protect Pfizer's strengths, eradicating its weaknesses. Strengths and weaknesses are purely based on internal resources, capabilities, and competencies that Pfizer built up over the years or in which Pfizer is lagging. External factors will be examined in the opportunities and threats, which builds upon the environmental analysis discussed above. The traditional SWOT analysis will be followed by the “new SWOT analysis”, elaborating upon strategies to exploit short-, medium- and long-term opportunities.

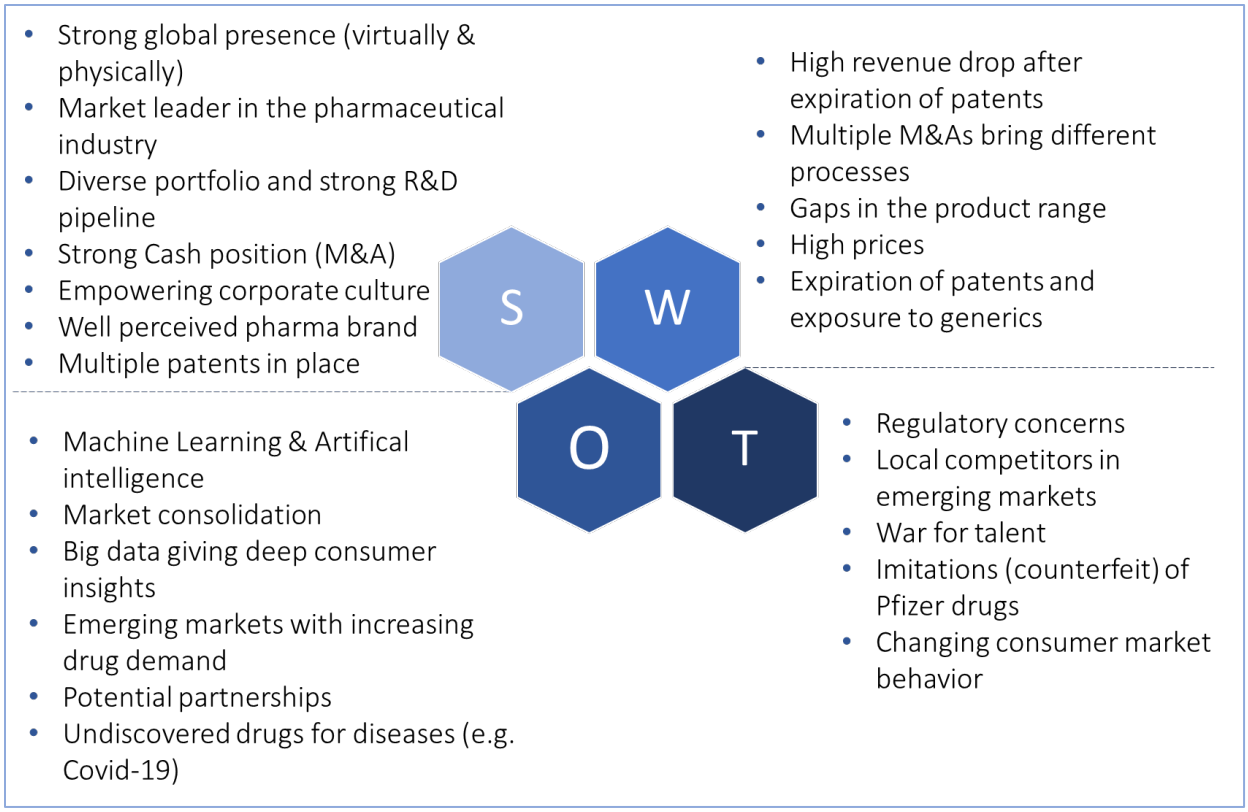


Figure 14: Pfizer's SWOT Analysis (traditional)

To better understand the relation of the different internal strengths and weaknesses with the external opportunities and threats of the market, the new SWOT analysis will be conducted hereunder. The previously defined opportunities and threats will be rearranged into short- to medium-term and medium- to long-term opportunities. Threats will be seen as opportunities since every threat can be turned into an opportunity by thorough planning and the application of the right measures. By adding the important factor of time to the framework, strategies can be concluded to exploit each of the defined opportunities by building on Pfizer's strengths and weaknesses.

1. Strategies for short- to medium-term opportunities

Market consolidation: This opportunity requires Pfizer to thoroughly consider other market players for potential M&A activities. As a result, Pfizer can fill portfolio white spots and increase the market share in certain markets. Furthermore, this opportunity allows Pfizer to absorb new technologies and patents in the organization and to improve competitiveness within the pharmaceutical industry. With Pfizer's strong financial position, its highly flexible and already has a proven track record of successful mergers.

Big data giving deep consumer insights: In times of the digital marketplace consumer data is accessible for all manufacturers and to reach certain target segments is becoming easier than ever before. Through big data and the application of certain consumer personas, Pfizer can address individual customers directly via multiple digital channels. Digital channels will be especially interesting for selling OTC drugs online, entry barriers are quite low for Pfizer and the manufacturer could save the additional wholesaler margin as a producer surplus. This trend can be exploited by making use of Pfizer's strong pharmaceutical brand.

Emerging markets with increasing drug demand: Developing and emerging countries are constantly increasing overall wealth, leading to an increase in health consciousness. The demand for access to pharmaceuticals is rising, starting from the upper-income classes, followed by the middle class. Pfizer's extensive presence in over 150 countries globally builds a good foundation to capture this increase in market demand supported by the strong brand recognition of the pharmaceutical giant.

Undiscovered drugs for diseases (e.g. Covid-19): For most companies, the outbreak of a new virus presents a major threat, unlike Pfizer that can seize the opportunity by exploiting up on the extensive R&D department and its position as the market leader in the pharmaceuticals industry. Recently, the outbreak of Covid-19 represents a major opportunity for all players in the market, the winner in the race for an antibody for this virus can support today's society and at the same time capture a great value. Pfizer is well positioned in this race, so far, no results were published.

Local competitors in emerging markets: This threat can be turned into an opportunity by proactively addressing emerging markets through positioning itself as the global market leader, offering its products at a competitive price. These price levels (especially for generics) can be achieved by partnering with other manufacturers that are focusing on lean and local production, to produce Pfizer branded generics. Both parties can benefit from such a partnership, Pfizer can secure the market share and the position in the emerging market and the partnering company can gain experience and market acceptance by using Pfizer's global brand.

Changing consumer market behavior: Consumers today are buying more and more online, leading to the expectations that also drugs should be fully available online. Pfizer can counter this threat by using big data to analyze these digital customer segments. Furthermore, setting up their online store, to address consumers directly, will increase the bonding of consumers with the brand.

2. Strategies for medium- to long-term opportunities

Machine Learning & Artificial Intelligence: Pfizer is already investing in new digital technologies like machine learning and artificial intelligence. In the future these technologies will have increasing importance in every industry, also to be expected in the pharmaceutical industry. Research areas such as disease identification, drug discoveries, and epidemic outbreak predictions can be enhanced by these technologies and personalized treatments will be enabled. Pfizer must use its financial resources and the extensive R&D capabilities to further invest in this area to ensure future leadership.

Potential partnerships: By adding further partners into Pfizer's network, the company can extend its capabilities without running into any big risks. As the market leader in pharmaceuticals, Pfizer can offer a strong position for any potential partner. Current portfolio white spots can be filled by combining product offerings or by adding the partner's services to Pfizer's portfolio.

Regulatory concerns: Every new drug needs to be approved for sale by the local governments. As long as a drug is pending for approval it does not create any revenue, thus the company is required to speed up the process of approval. One of the biggest lobbies in the U.S. is represented by the pharmaceutical industry and its most prominent player is Pfizer. The company uses its financial resources to secure the approval of newly developed drugs and to influence patent extensions and lawsuits. Especially orphan drugs, that are targeting a niche market of rare diseases can benefit from increased lobbying activities with a higher likelihood of fast approval.

War for talent: In a more globalized world and an arising generation of millennials who value a solid work-life balance, the company culture becomes more and more important in talent acquisition and retention. Pfizer set with its Bold Moves the scene for a working culture, that is empowering, efficiency-driven, and eyes at R&D excellence. This campaign also picks up the digital trend and focuses on a more customer-centric approach. This campaign leads to the right direction to satisfy future talents, though it needs to further improve to motivate the next generation to work for this pharmaceutical giant.

Imitations (counterfeit) of Pfizer's products: Especially in emerging and developing countries, scam manufacturers are rising which will be an increasing threat for Pfizer going forward. Pfizer's well-connected network in most countries must be used to seek for these scams locally and to counter them either lawsuits or by educating end customers about the risks of using scam ware.

All presented opportunities were visualized in the following figure.

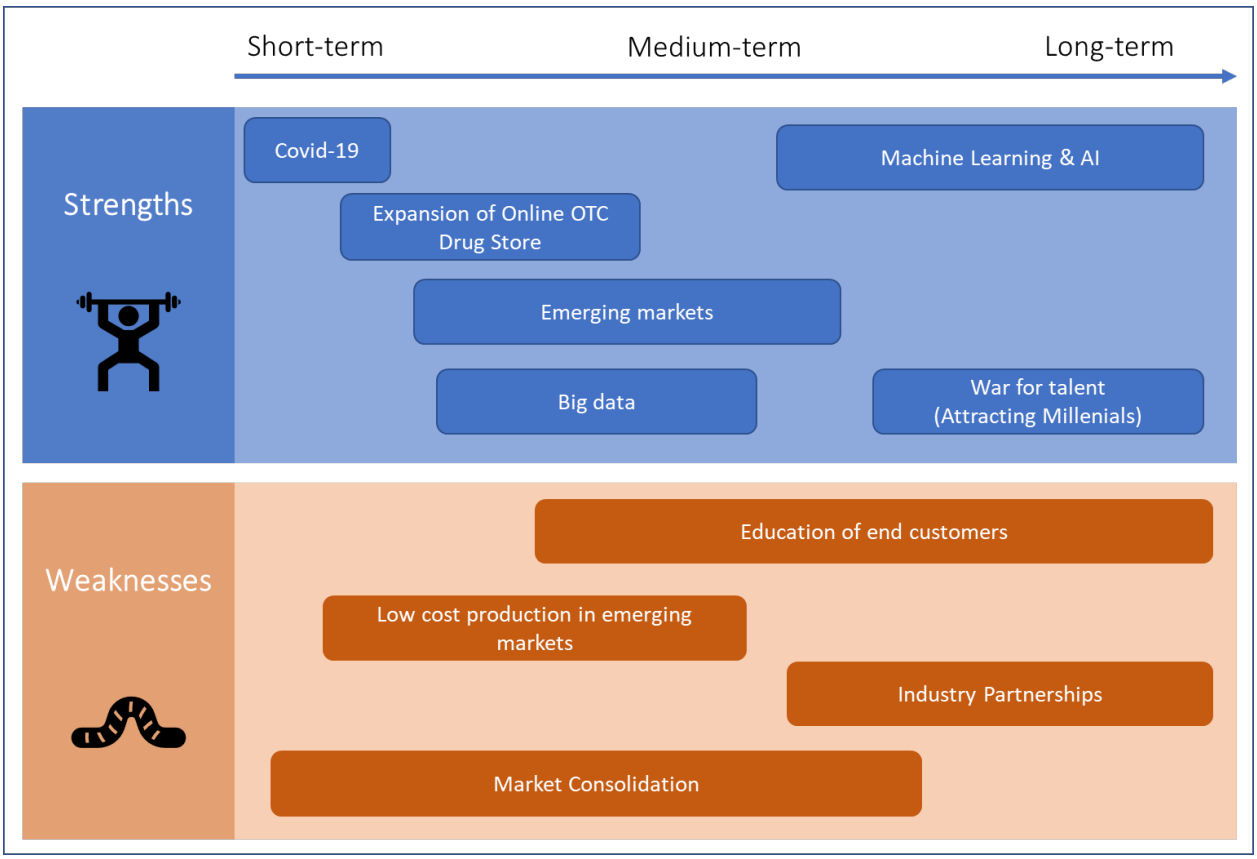


Figure 15: New SWOT analysis for Pfizer

5 Business strategy

5.1 Business strategy overview and objectives

After considering the external and organizational analysis and deriving the core competencies and capabilities of Pfizer, it is necessary to evaluate four dimensions of corporate strategy: Product-Markets, Vertical Integration, Internationalization, and Diversification (as part of the corporate strategy), that should answer the questions where and how the company should compete.

As an introduction to the business model of Pfizer, we first draw a business model canvas to reflect the structure of the company's strategy around its central value propositions.

<table>
<tr>
<td rowspan="2">Key partners:
Collaborations:
• GlaxoSmithKline (GSK)
• Akcea Therapeutics Inc.
• BioNTech (Covid-19)
• Merck
• Government of Australia (Labor Party)
• Valneva
Customers:
• McKesson Inc.
• AmerisourceBergen Corporation
• Cardinal Health Inc.
R&D and education:
• University of Cambridge
• University of Oxford
• University of Texas Southwestern
• Indian government</td>
<td>Key activities:
• Discovery, development, and manufacture of medicine
• The innovation of vaccine (incl. Covid-19)</td>
<td rowspan="3">Value propositions:
• Broaden access to medicine
• Strengthen customer healthcare
• Innovational medicine and vaccines (Biopharma)
• Generic drugs market (Upjohn)
• Provision of OTC drugs directly to the consumers (Customer Healthcare)</td>
<td>Customer relationship:
• Wholesale distribution channels (B2B)
• B2C Customer Healthcare division</td>
<td rowspan="2">Customer segment:
• Wholesalers (B2B)
• Individual physicians
• Hospitals
• Retailers
• Direct consumers (B2C)</td>
</tr>
<tr>
<td>Key resources:
• Worldwide R&D facilities
• Financial resources (cash positions, access to capital market)
• Technological and intellectual properties
• Manufacturing and supply chain networks
• Sales and distribution channels
• Personnel</td>
<td>Channels:
• Internet
• Pfizer website
• Supplier and distributor platform</td>
</tr>
<tr>
<td colspan="2">Cost structure:
• R&D expenses
• Selling costs
• Administrative costs
• M&A expenses</td>
<td colspan="2">Revenue stream:
Sale of:
• Blockbuster drugs Biopharma (Ibrance, Prevnar, Eliquiz, Xeljanz, Enbrel, Chantix)
• Blockbuster drugs Upjohn (Lyrica, Lipitor)
• Oncology drugs
• Biosimilar drugs
• Consumer Care (not prescription drugs)</td>
</tr>
</table>

Figure 16 - Pfizer's business model canvas

The business model canvas should provide a high-level overview of Pfizer's strategy. A deeper analysis of each part is covered in chapters "Organizational analysis", "Business strategy" and "Corporate strategy".

Pfizer defines its objectives based on its performance indicators, by splitting it into five main subjects (based on the annual report):

- Access to medicine
- Top ten vaccine and medicine by revenue
- Colleagues injuries
- Environmental sustainability
- Supply chain sustainability

By setting goals for the four sustainable value creation factors of the aggregate indicator: growth, margin, risk and sustainability, as well as strategic objectives, the following effectiveness and efficiency goals can be found based on Pfizer's webpage and annual report:

	Effectiveness objectives	Efficiency objectives
Growth objectives	• Development and security of patent for the new Covid-19 vaccine by the end of 2020 • Delivery of several new drugs with blockbuster potential for Biopharma division from 2021 onwards • Growth of Ibrance's revenues from use as adjuvant therapy in treating breast cancer from 2021 onwards • Growth of Prostate cancer drug Xtandi's revenues after earlier treatment settings, from 2021 onwards • Creation of at least 1000 new jobs in the U.S. within the next two years	• Increase R&D expenses in injectable pharmaceutical production and gene therapy at least by 3% in 2020 • Investment of appr. $5 billion in capital projects in the U.S. for the strengthening of manufacturing presence 2020-2022
Margin objectives	• Increase of the five-year revenue compound annual growth rate (CAGR) on a risk-adjusted basis to 6%	• Keep the adjusted cost of sales not more than 21% of revenues in 2020 • Reduce the adjusted SI&A expenses by at least 7% in 2020
Risk objectives		• Decrease the total number of injuries of own employees by 10% in the next year and by 30% in the next 5 years

Sustainable objectives	• Increase the number of global programs and commercial transactions by at least 3 to increase access to medicines in emerging markets, within the next 2 years • Address at least 2 of the Top 21 new global burdens of disease addressed by products and pipeline within the next year	• Decrease of Greenhouse Gas (GHG) emissions by 20% by the end of 2020 • Decrease of total hazardous and non-hazardous waste by 15% by the end of 2020 • Decrease of total water withdrawal by 5% by the end of 2020 • Increase the percentage of key suppliers with reduction goals for GHG, waste disposal and water withdrawal by 83% reaching 90% in total • Increase the percentage of key suppliers (suppliers of pharmaceutical ingredients, drug products, raw materials, product packaging services, key research and development collaborators, and freight forwarders) aligning with Pharmaceutical Supply Chain Initiative (PSCI) principles by and managing their environmental impacts to 100% by the end of 2020
Strategic objectives	• Keep the dividend yield of Pfizer's stock over 3.5% for the next 5 years • No share repurchases in 2020	• Keep the adjusted diluted earnings per share (EPS) not less than $2.8 in 2020

5.2 Products-Markets

5.2.1 Customer segmentation

Pfizer has a clear customer distinction between the **developed markets** (U.S., Western Europe, Japan, Canada, South Korea, Australia, Scandinavia, and New Zealand) and **emerging markets** (Asia, Latin America, Eastern Europe, Africa, the Middle East, and Turkey). At the same time within the developed market segment there is a clear division between the U.S. and not the U.S. market.

From another perspective, Pfizer segments its customers to **B2B** and B2C, namely in

- Wholesalers incl. pharmacies and individual providers
- Clinics
- Physicians

- Hospitals
- Government agencies

and directly to consumers via the Customer Healthcare sector: however, Customer Care is a separate division of Pfizer in the form of a Joint Venture with GSK and is outside the scope of this analysis.

Therefore, since we are restricting our analysis to only prescription drugs, the target market is the wholesale market, pharmacies, physicians and hospitals/clinics, as Pfizer does not sell its prescription drugs directly to the end consumers.

Pfizer sells its biopharmaceutical products primarily to the wholesalers and during the last 3 years following three wholesalers contributed to the 79% of sales in the U.S. and 38% of sales worldwide: McKesson, Inc., AmerisourceBergen Corporation and Cardinal Health, Inc.

Figure 17 - Pfizer's distributors globally and in the U.S.

Therefore, wholesalers and distributors can be segmented to the following groups:

- Geographic: Domestic vs. international
- Revenue: Small vs. large
- Maturity: Established vs. launching

5.2.2 Product mix

Prescription drugs are covered by the Biopharma and Upjohn division within the Pfizer's structure and can be split into

- Innovative (prescription patent) drugs,
- Orphan drugs and
- Generic drugs

The best known and sold **prescription patent (Biopharma) drugs** are:

- Internal medicine (Eliquis, Chantix, Toviaz)
- Oncology (Ibrance, Sutent, Xtandi, Xalkori, Inlyta, Bosulif)
- Hospital (Sulperazon, Medrol, Vfend, Zithromax, EpiPen, Zyvox, Fragmin, Diflucan)
- Vaccines (Prevnar 13, Nimenrix, FSME/IMMUM, Trumenba)

- Inflammation & Immunology (Xeljanz, Enbrel, Infectra)

Biopharma $1 Billion+ Products		
2019	**2018**	**2017**
Prevnar 13/Prevenar 13	Prevnar 13/Prevenar 13	Prevnar 13/Prevenar 13
Ibrance	Ibrance	Ibrance
Eliquis*	Eliquis*	Eliquis*
Xeljanz	Enbrel	Enbrel
Enbrel	Xeljanz	Xeljanz
Chantix/Champix	Chantix/Champix	Sutent
	Sutent	

* *Eliquis* includes alliance revenues and direct sales in 2019, 2018 and 2017.

Figure 18 - Pfizer's best selling products

The best sold orphan drugs (to heal rare disease) are:

- Genotropin (Replacement of human growth hormone)
- BeneFIX (Hemophilia B)
- Vyndaqel (ATTR-Cardiomyopathy and Polyneuropathy)
- Refacto AF (Hemophilia A)
- Somavert (Acromegaly)

The most important generic drugs (Upjohn):

- Lyrica (Epilepsy, post-herpetic neuralgia and diabetic peripheral neuropathy)
- Lipitor (Reduction of LDL cholesterol)
- Norvasc (Hypertension)
- Celebrex (Arthritis pain and inflammation, acute pain)
- Viagra (Erectile dysfunction)
- Effexor and Zoloft (Depression and certain anxiety disorders)
- Xanax (Anxiety disorders)

Upjohn $1 Billion+ Products		
2019	**2018**	**2017**
Lyrica	Lyrica	Lyrica
Lipitor	Lipitor	Lipitor
	Norvasc	Viagra

Figure 19 - Pfizer's best selling products for the Upjohn division

The biggest product mix is covered by the prescription drugs Biopharma division, contributing over $39b of revenues in 2019, followed by the generic division within the Upjohn unit with over $10b of revenues and last but not least the orphan rare disease division with over $2b revenues. Pfizer's revenue strongly depends on the price and the expiration date of the older patent drugs. The company has a list of drugs each of which generates over $1 billion per year, which Pfizer strongly relies on but at the same time depends on their patent protection, prescription growth, and competitive products.

5.2.3 Products-Markets model

A business model is a way the company is structured to create sustainable value for customers. Hence Pfizer is a well-established company with a very rich history, it is a producer with direct digital and physical sales.

From the specific business model perspective, which combines the role as an intervenient in the value chain with the nature of its revenues, Pfizer represents itself as a **"Producer"** in the **intervenient model**, having at the same time a **"Total" revenue model**, meaning Pfizer invents its drugs via R&D, produces and manufactures them, secures patents (the main source of revenue), promotes their products to healthcare providers and sells to its wholesale customers.

Pfizer's B2B channel is an e-commerce space, providing support to its suppliers, customers, and distributors. For the stakeholders to make an order, a request or to receive the information needed, it's necessary to register on the special Pfizer eCommerce website. Pre-approved suppliers and distributors can track invoices online, account payables, and study procurement information. Further on, PFIZERPHARM is another website for pharmacies and wholesalers, which provides information about product availability, package configuration changes, and recent letters to the trade. Another B2B website, PFIZER CENTRE ONE is a global contact for development and manufacturing organization and supplier of active pharmaceutical ingredients (APIs), delivering technical expertise, support, and supply.

Being a leader in the pharmaceutical industry and through an extensive time on the market, Pfizer has defined clear terms and conditions of sales policies specifying who can be distributors, suppliers, or wholesalers. Pfizer pays much attention to the distribution process to prevent counterfeiting. Pfizer's wholesalers can only order the products online via the abovementioned website. A designated Pfizer's distributor or wholesaler must in addition to the general business requirements, agree to purchase Pfizer pharmaceutical products only from Pfizer, and Pfizer may revoke back the Pfizer distributor status anytime.

Being an innovational biopharmaceutical and vaccine company, Pfizer cannot advertise its prescription drugs directly to the consumers, the only legal exception is the U.S. and New Zealand but only after submission of advertising requests to the Food and Drugs Association (FDA) and its approval.

Thus, pharmaceutical companies promote their products through special medical representatives, who organize and arrange training and seminars for physicians and healthcare professionals, who help with the marketing activities to promote the medicine. It is a general practice in the pharmaceutical industry to target doctors and another healthcare representative for educational and promotional meetings and clinical researches, with the purpose of collaboration and drug promotion.

After analyzing the marketing mix and the customer segmentation of Pfizer, we apply gathered information to create the product-markets matrix for the B2B segment of Pfizer:

Pfizer product mix	Domestic U.S. market			International market		
	Pharmacy groups	Small wholesaler (established/launching)	Large wholesaler (established)	Pharmacy groups	Small wholesaler (established)	Large wholesaler (established)
Internal medicine	$$$	$$$	$$$	$$	$$$	$$$
Oncology		$$$	$$$		$$	$$
Hospital	$	$	$	$	$	$
Vaccines	$$	$$$	$$$	$	$$$	$$$
Inflammation & Immunology	$$	$$	$$	$$	$$	$$
Rare disease drugs	$	$$	$$		$	$
Generic drugs	$$$	$$	$$$			$$$

Attractivenes	Revenue
High	$$$
Medium	$$
Low	$

Figure 20 - Pfizer's product mix

First of all, it is important to mention that since 2005 Pfizer has executed a Single Distributor Policy with all the suppliers and distributors outside the U.S., meaning Pfizer sold its product only to the wholesalers and has not co-operated directly with the pharmacies or hospitals outside U.S. However, since 2009 Pfizer started to adopt a Direct-to-Pharmacy (DTP) policy in countries like UK, France, Poland, and Australia, enabling Pfizer selling their medicine directly to pharmacy groups, circumventing the wholesalers and therefore tightly controlling the supply chain. This decision caused huge discontent and opposition from the wholesaler's community and had different legal consequences due to jurisdictions in the countries.

As of recently, Pfizer is permitted to apply the DTP model in the countries where it is legally permitted, however, the majority of the worldwide distributors remain wholesalers. In 2020 however, it agreed to quit this DTP model for the Upjohn division.

Geographically speaking, 46% of total revenues come from the U.S and 56% from abroad.

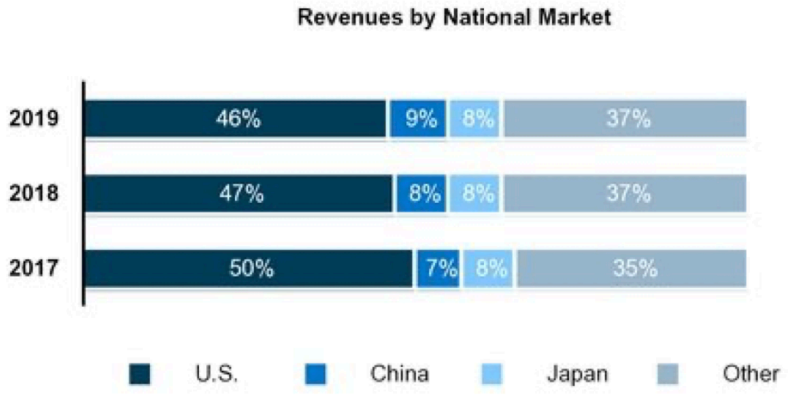


Figure 21 - Pfizer's global revenues by market

Selling to large wholesalers outside the U.S. is still the focus of Pfizer and as was mentioned before, only a part of the international revenues comes from pharmacy groups or smaller wholesalers. On the contrary, a DTP model is being executed in the U.S. (since 2020 not for Upjohn – generic drugs).

In terms of product variety, most revenue-generating drugs are vaccines, oncology, internal medicine, and generic drugs. Due to the current restructuring of the company and merger of Upjohn with Mylan N.V., Pfizer's priority is transferred to the Biopharma and orphan drugs division, decreasing the value of the generic drugs.

5.3 Products – Markets Evolution

Pfizer is an established pharmaceutical company with an innovative business model, which steadily grows organically and inorganically always improving its portfolio. Pfizer has a long history of mergers & acquisitions (M&A) and further strategic alliances like joint ventures, which is one of the reasons for its significant growth over so many years. Pfizer has acquired 31 companies over the past decades. By talking about the evolution of products and the market, Pfizer has established a **strong position in market penetration, product development, and range diversification** and is aiming to market development.

Before we consider the Ansoff matrix, it is essential to look at the evolution of Pfizer's products and markets and the strategy behind them.

In October 2019 Pfizer entered into a worldwide exclusive licensing agreement for AKCEA-ANGPTL3-LRx, (an investigational antisense therapy being developed to treat patients with certain cardiovascular and metabolic diseases) with Akcea. In June 2016 Pfizer entered into a definitive merger agreement with Anacor, strengthening the inflammation and immunology portfolio. Anacor's flagship asset, crisaborole, a differentiated non-steroidal topical PDE4 inhibitor with anti-inflammatory properties, is currently under review by the U.S. FDA for the treatment of mild-to-moderate atopic dermatitis, commonly referred to as eczema. Both transactions result in the extension of **product development in the inflammation and immunology** field, as the new products are provided to the existing market.

In July 2019 Pfizer acquired Array BioPharma Inc., advancing breakthrough science for the discovery, development and commercialization of targeted small molecule medicines to treat cancer and other diseases of high unmet need. The combined use of BRAFTOVI® (encorafenib) and MEKTOVI® (binimetinib) for the treatment of metastatic melanoma, shows significant potential for long-term growth via expansion into additional areas of unmet need. In October 2016 an acquisition of Medivation, a biopharmaceutical company focused on developing and commercializing small molecules for oncology was completed. Medivation's portfolio includes XTANDI® (enzalutamide), an androgen receptor inhibitor that blocks multiple steps in the androgen receptor signaling pathway within the tumor cell. Both transactions lead Pfizer again to **product development in oncology**.

Another deal finalized in July 2019 is the acquisition of Therachon Holding AG, a global biotechnology company focused on developing medicines for rare, genetic diseases, which supposed to help Pfizer to progress on **orphan drugs** leading to **product development**.

In December 2016 an acquisition of a small molecule anti-infectives business AstraZeneca was completed. The agreement includes the commercialization and development rights to the newly approved EU drug Zavicefta, the marketed agents Merrem and Zinforo. The addition of a small molecule anti-infectives

portfolio enhances Pfizer's global expertise and offerings in an increasingly important area of therapeutics that addresses public health. This is an example of product development of hospital drugs.

In July 2019, it was announced that a definitive agreement was reached to combine Upjohn with Mylan N.V, creating a new global pharmaceutical company, Viatris. This new company will expand the variety of generic drugs on the market, creating market penetration, as generics are expired patent drugs, meaning the product itself is not new.

In July 2019, Pfizer completed a 32%-Joint Venture transaction with GSK combined respective consumer healthcare businesses into a new consumer healthcare joint venture that operates globally. The joint venture is a category leader in pain relief, respiratory and vitamins, minerals and supplements, and therapeutic oral health and is the largest global OTC consumer healthcare business. Since Pfizer has been active in consumer healthcare (OTC) for a long time, this market and the products are not new, therefore it is market penetration.

The further collaboration was done in 2019 with Merck KGaA in the development and commercialization of Bavencio, a new patented oncology drug (product development).

In 2020 Pfizer and BioNTech announced regulatory approval from German authority to commence first clinical trials of Covid-19 vaccine candidate, leading again to product development. However, if the innovation and launch of the vaccine are successful, Pfizer has a great potential to expand geographically to more countries, leading potentially to market development.

Pfizer recognized in time the needs and economic perspectives in the Asian emerging countries. Because of the demographics, urbanization, rise of the middle class, and rising economic power, emerging markets are becoming more aligned with developed markets and provide opportunities and growth. Following that, Pfizer just entered a number collaboration agreement with Chinese pharmaceutical companies like Boao Lecheng or online pharmacies like Jianke in the last two years. For Pfizer it was a final breakthrough into the Chinese market, therefore extending Pfizer's market development.

It is worth mentioning that from the majority of M&A and collaboration embarked on, Pfizer could secure new patent drugs and have access to the new technologies enabling the research and invention of new drugs in the new future.

The following Ansoff matrix can be created taking into consideration the last 3 years of Pfizer's activity:

Ansoff matrix	Existing Product	New Product
Existing market	**Market penetration:** - Extension of market share in generic drugs (Merger Upjohn with Mylan) - Expansion of customer healthcare - OTC drugs (JV with GSK)	**Product Development:** - New biotechnology for orphan drugs (Acquisition of Therachon Holding) - BRAFTOFI&MEKTOVI (Array BioPharma Acquisition) - AKCEA-ANGPTL3-LRx (Akcea partnership) - Crisoborole (Anacor Merger) - XTANDI (Medivation Acquisition) - Zavicefta (Acquisition of AstraZeneca) - Bavencio (Collaboration with Merck)
New Market	**Market Development:** - Expansion to China (vaccines and OTC drugs) - Potential expansion to new markets (Covid-19 vaccine)	**Diversification**

Figure 22 - Ansoff market applied to Pfizer

From the Ansoff matrix, one can observe a **strong focus on product development** of Pfizer, providing many innovative products and new technologies acquired from the new firms to the existing markets like **oncology, orphan drugs, or immunology**.

The other strong concentration of Pfizer is **market penetration**, by reintroducing the existing types of drugs in the existing markets, enabling Pfizer to gain more market share, reduce the price and increase variety – with a very good example of **generic drugs and customer OTC drugs**.

Last but not least **market development** implying many diverse initiatives to expand to China and other emerging markets.

5.4 Products – Markets Differentiation

By applying the generic strategies model, which combines the nature of the competitive advantage with the products-markets matrix, one observes that Pfizer appears to be present more in a broad market but aiming the narrow market.

		Competitive Advantage	
		Low Cost	Differentiation
Competitive Scope	Broad Market	**Cost Leadership** - Generic drugs - Customer Healthcare	**Differentiation** - Innovative drugs (oncology, immunology, vaccines, etc.)
	Narrow Market	**Low Cost Focus**	**Differentiation Focus** - Orphan drugs (rare disease drugs)

Figure 23 - Generic strategies model applied to Pfizer

However, the generic strategies model does not take into consideration many key strategic issues and has many limitations, therefore the adapted generic strategy model has to be applied.

Also, by applying the adapted generic strategy model to Pfizer, one can conclude that Pfizer has two different competitive advantages to pursue different types of products-segments.

		Cost Leadership	
		Low	High
Differentiation	High	**Pure Differentiation** - Innovative drugs (oncology, immunology, vaccines, etc.) - Orphan drugs (rare disease drugs)	**Differentiation with Cost Leadership**
	Low	**Indistrinction**	**Pure Cost Leadership**: - Generic drugs - Customer Healthcare

Figure 24 - Adapted generic strategies model applied to Pfizer

Pfizer has several different market lines but is focusing more on biopharmaceuticals patent drugs and positions itself as an innovative pharmaceutical company. As was mentioned before, due to its organizational restructuring, Pfizer wants to gain more market share within the innovative and orphan drugs segments, by heavily investing in R&D and by acquiring other leading biopharmaceutical firms. Internal medicine, vaccination, and immunology are the areas where Pfizer gained a huge market share, however, there are other fields like oncology, infectious and rare diseases where Pfizer sees growth potential.

Pfizer spends on average approximately 16% of its revenue on R&D, however, it takes a few years before a new drug is invented and patented. Pfizer has many blockbuster drugs, which each generate over $1b per year but all these patent drugs are due to expire. Therefore, Pfizer needs to price all its R&D, labor, and administrative costs into the selling prices and these products are therefore expensive but exhibit high differentiation because of their patent. These blockbuster drugs allow Pfizer to use its first-mover advantage and to offer higher prices before its competitors are given access to them upon the expiration of patents.

In the case of orphan drugs, similar to its innovative drugs, Pfizer invests substantially in R&D and additional finances are provided by governmental subsidies. It is important to point out that those drugs are extremely costly since there is just a small portion of the population having those rare diseases and the drugs are almost tailor-made. Therefore, this subdivision lies in a very high price segment with high differentiation.

At the same time, Pfizer produces several different generic drugs, which are supposed to substitute the patent drugs nearing their expiration. Pfizer usually increases the prices for those drugs dramatically in the last year before expiration, at the same time producing generics with the same healing quality, so the consumers may switch to generics, which are more affordable and much cheaper. In the case of generics, the differentiation of Pfizer is low, since not only the main huge competitors but also small pharmaceutical companies flow the market with their generic products for the low price.

Apart from the prescription drugs, Pfizer produces mass market items (OTC market) in its customer health business unit in collaboration with GSK, providing a broad range of products. In terms of differentiation and pricing are those products in a low segment because of their mass-market nature and lower costs.

All in all, one can conclude that Pfizer's clear competitive advantages are pure differentiation and pure cost leadership, however, if one leaves aside the consumer healthcare sector, Pfizer is headed towards a pure differentiation strategy.

5.5 Innovation

It is no secret that Pfizer perceives itself as an innovational mover in the pharmaceutical and biotechnology market. Pfizer follows a strong innovational expansion and uses the word "Innovation" almost in every statement of its mission, objectives, values, and goal-seeking.

Innovation is the core business and core competency of Pfizer, which contributes much to the company's well-being and is the biggest source of revenue for Pfizer. Because the past decades have seen Pfizer following the strategy of producing blockbuster drugs, innovation and R&D always were the key success factors, enabling a high growth of revenue and profit. Furthermore, Pfizer is constantly seeking to improve its R&D abilities internally and externally to continue developing high-value medicine and vaccines.

Innovation and R&D go hand in hand and Pfizer has invested heavily in R&D for many years (on average over $8 billion per annum) confirming their mission to deliver breakthroughs that change patients' lives. Currently, there are 95 R&D projects in different stages ongoing, developing, testing, and experimenting with new products.

A significant portion of R&D is done internally and focuses on the main business units of Biopharma. The following R&D priorities are covered:

- delivering a pipeline of highly differentiated medicines and vaccines where Pfizer has a unique opportunity to bring the most important new therapies to patients in need;
- advancing capabilities that can position Pfizer for long-term R&D leadership; and
- advancing new models for partnerships with creativity, flexibility and urgency to deliver innovation to patients as quickly as possible.

The other portion of R&D comes from strategic alliances. Pfizer has shifted its tactic to strategic partnerships with leading businesses in healthcare technology and science, which can enhance Pfizer's drug pipeline and its market share and influence.

Pfizer possesses all abilities and channels to be the first mover in terms of innovation on the market:

- The pharmaceutical market is quite large, however, there are a few big players like Novartis, Merck, Johnson & Johnson, Roche, and Eli Lilly and many more media to small pharmaceutical firms. The entry into this market is connected with huge barriers, legal constraints, and investments, moreover, to become a valuable player, the entry barrier is even higher because the ability to produce a valuable product requires very high R&D expenses. Pfizer is in the pharmaceutical market for over 170 years has both: easy access to the market and, due to its size, Pfizer is leading the market.
- Pfizer is constantly competing with the abovementioned companies; however, every company has its competitive advantage in their particular areas and each of them heavily invests in R&D proving to be innovative but still, higher investment in R&D does not mean a higher success.

Top 10 Companies & Total Market

Rank	Company	Pharma R&D ($bn) 2018	2024	CAGR 2018-24
1.	**Johnson & Johnson**	8.4	9.9	+2.6%
2.	**Roche**	9.8	9.9	+0.1%
3.	**Merck & Co**	7.9	9.2	+2.5%
4.	**Novartis**	8.2	9.2	+2.0%
5.	**Pfizer**	8.0	8.9	+1.9%
6.	**GlaxoSmithKline**	5.0	6.8	+5.3%
7.	**Bristol-Myers Squibb**	5.1	6.7	+4.5%
8.	**Sanofi**	6.2	6.7	+1.2%
9.	**Eli Lilly**	5.0	6.1	+3.4%
10.	**AstraZeneca**	5.3	5.9	+1.8%
	Total Top 10	68.9	**79.1**	+2.3%
	Other	110.0	**133.9**	+3.3%
	Total	178.9	**213.0**	+3.0%

Table 9 - R&D expenditures of pharmaceutical companies in comparison

- In terms of resources, Pfizer possesses over 60 plants around the world and is present in over 125 countries, which gives them the competitive advantage of worldwide collaboration with many different large, medium, and small companies, universities, academic centers, and governments. Financially speaking, Pfizer has enough resources (cash and also access to capital market) to acquire, merge, and collaborate with other companies and gain value from their expertise and new inventions.
- Nevertheless, it is worth mentioning that around 80% of new drugs of Pfizer come externally from the newly acquired biotech companies, confirming the insufficient growth and slow internal progress in R&D. This fact also relates to the other large pharmaceuticals, which mostly didn't invent the drugs they sell. For example, Pfizer's highest-selling product Prevnar 13, a vaccine for pneumococcal disease, was developed at Wyeth, which Pfizer acquired in 2009. Pfizer's Ibrance, used to treat breast cancer, had its origins at Warner-Lambert and Onyx Pharmaceuticals.
- Last but not least, Pfizer perfectly knows how to protect its innovation – namely by securing patents and royalties, which is another core competency of Pfizer – Pfizer is the champion in several patent drugs and many blockbusters drugs.

Combining the Pfizer's competencies in core technologies with its innovative approach, it is clear that the strategy of "Innovation Leader" is pursued by Pfizer, due to its high core competency in R&D and the first mover approach in innovation.

		Competencies in Core Technologies	
		Low	High
Innovation Approach	First Mover	Innovation Specialist	Innovation Leader
	Follower	Innovation Streamliner	Innovation Follower

Figure 25 - Pfizer innovation matrix

By extending this innovation matrix to the maturity stage of Pfizer, one still can say that Pfizer as a global corporation is a clear leader in innovation and the small to medium pharmaceutical companies, acquired by Pfizer, are typical "Specialists" with high technological competency and low competitive strength, enabling Pfizer to extend its network, expertise, and connection and benefit from the strong know-how of those specialists.

		Technological Competency		
		Low	Medium	High
Competititve Strengh	High	Specialist	Follower	Leader
	Medium	Streamliner	Follower/Specialist	Follower
	Low	Streamliner	Streamliner	Specialist

Figure 26 - Pfizer innovation matrix with maturity stage

5.6 Vertical integration

To have a significant presence in the market, big pharmaceutical companies, such as Pfizer, need to have a reasonable degree of vertical integration, having some degree of ownership of the successive stages of the value chain, adding value to its sales revenue, impacting the margin component of the aggregate indicator but also the growth, risk and sustainability components.

Although for most of the 20th century common knowledge indicated that vertical integration was beneficial because it allowed to reduce risk factors and improve coordination between the different stages of the value chain, in recent years there has been a trend towards outsourcing, favoring flexibility, in some cases reducing costs and allowing for companies to concentrate on the activities that are essential to them and where their core competencies lie. The possible coordination downside can be mitigated through collaboration.

In essence, vertical integration isn't good or bad. It comes down to the context.

5.6.1 Pfizer's Value Chain

Pfizer's value chain can be divided into 5 major stages. The first stage, drug discovery and development (R&D) involving the identification, synthesis, and screening of chemicals for therapeutic efficacy. Once a

lead compound has been identified through this process then the drug will be then brought to the market (drug development). At this stage of a new medicinal molecule. In this first step, we can consider that the actual patenting and licensing of the new medicine in the countries where it's going to be manufactured or sold is already included. Stage 2 encompasses the procurement process of getting raw materials such as active pharmaceutical ingredients (APIs) and packaging materials and delivering them to the manufacturing sites. Manufacturing, stage 3, covers the actual manufacturing processes of medicines, quality control, and drug testing. The next stage, distribution, in most markets is carried out by importers and wholesalers, linking manufacturers and retailers, ensuring a continuous supply of medicine, regardless of geographical location and required portfolio of medicine. Sales & Marketing addresses processes of promotion of products within the global biopharmaceutical business to healthcare providers and patients and customer relations through sales and product managers. Aside from the referred stages, constituting the primary activities, companies have activities, such as human resource management and firm infrastructure, that support the whole value chain.

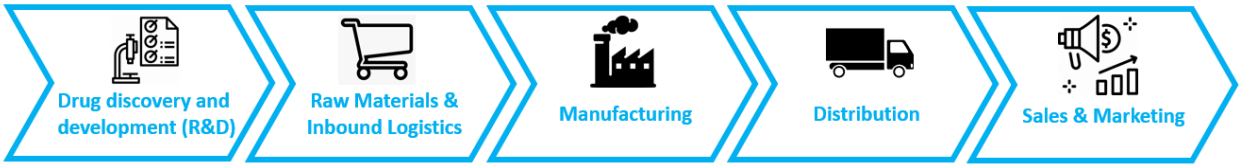


Figure 27 - Pfizer's Value Chain

Addressing Pfizer's specific case, we can affirm that the company's core activities are stage 1, research and development, and stage 3, manufacturing, as Pfizer says they are in the business of discovering and producing drugs. Although core and strategic activities of the value chain should be taken undertaken by the company itself, Pfizer adopted a mixed model of internal operation and external contracting at almost every stage of the value chain. This way we can say that Pfizer uses a predominantly forward vertical integration model as they moved downstream in the chain.

As mentioned throughout this assignment, Pfizer constantly makes a considerable investment in R&D, accounting for 16% of its total revenue (US$8.6 billion). This value includes not only their internal costs of R&D but also the M&A's that the company undertakes and collaborations and outsourcing to contract researcher operators (CRO's) such as Icon, PPD, and Parexel who conduct clinical trials. Recent collaborations with BioNTech (Influenza Vaccination) and Kineta (new cancer immunotherapies) are also examples of external contracting in one of the core activities of the company's value chain. These different types of partnerships allow Pfizer to have access to market-leading technologies that are needed to fuel success. Artificial intelligence and real-world data analytics are also global trends in almost every industry and pharmaceutical companies such as Pfizer need to collaborate with tech companies as they don't have the core competencies in those fields. CRO's and collaborations with research companies allow for Pfizer to decrease drug development costs while speeding up the actual development process. More recently, COVID-19 has forced Pfizer to pause the majority of ongoing clinical trials of R&D projects in the pipeline, while partnering up with BioNTech for co-development and distribution of a vaccine for the novel disease.

Regarding the next two stages of the value chain, raw materials, and manufacturing, Pfizer has its internal manufacturing sites (over 60 plants around the world). The major ones are located in the U.S, Belgium, China, Germany, Japan, India, Ireland, Italy, Puerto Rico, and Singapore. Pfizer has its own in-house contract manufacturing company (also known by fill-finish), Pfizer CentreOne, who produces API's in its Michigan

facility, for other companies to buy from them. Although they are producers of APIs, Pfizer isn't self-sufficient and constantly by from a diverse range of suppliers including top players Alfa Aesar (Thermo Fisher Scientific owned company), and Sigma Aldrich (Merck Group). Concerning the actual manufacturing process of the finished product (drug), Pfizer's intense investment, with over 60 plants still obliges them, in some situations, depending on the context, to partner with local players in regions/countries where Pfizer doesn't have a strong presence. For instance, they recently partnered with Medochemie for drug manufacturing in Vietnam.

Distribution is the stage of the pharmaceutical industry value chain, where generally companies have a lower degree of presence. The "last mile" is usually done by the distributor that will commercialize the product to the final customer. This allows manufacturers to ship large quantities of products to a small number of wholesalers instead of shipping small quantities to a larger number of pharmacies. For instance, Cardinal Health, McKesson and AmerisourceBergen accounted for around 80% of total revenues from drug distribution in the U.S. D.H.L. is also one of Pfizer's known logistical partners that takes care of distribution operations of the company, mainly in Asia. But distribution isn't only about the "last mile" and Pfizer possesses a vast network of 175 logistics centers, among them the Belgium logistics center in Zaventem which handles around 60% of its total product movements worldwide. With its strong logistic network and wide range of SKU's, Pfizer implemented a digital end-to-end visibility solution with GT Nexus and Unyson Logistics that permitted Pfizer and its partners a unified source of information where all stakeholders can base their own decisions, introducing traceability. At the end of 2018, Pfizer launched the Trackit app, that tracks over 15,000 SKU's to their customers

As aforementioned, Pfizer promotes its products on a global level in the biopharma business, targeting both healthcare providers and patients. Marketing and Sales are, to the best of our knowledge, the stage of the value chain where Pfizer doesn't outsource, having their marketing team responsible for the education stakeholders of the company's product approved uses, benefits, and risks using both a DTC approach in the U.S. as a B2B approach globally to its wholesalers, pharmacies, and others. Pfizer's sales teams are responsible for managing the relationship with clients through local Pfizer's affiliates or branches.

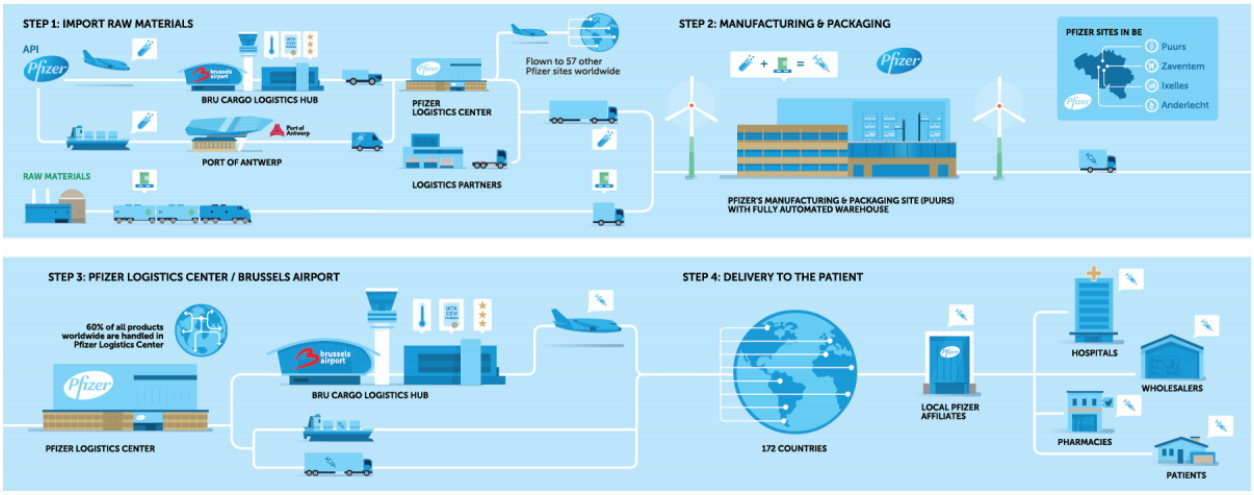


Figure 28 - Pfizer's interactions throughout the value chain

5.6.2 Strategic Outsourcing

Finding subcontractors that are strategic for Pfizer goes beyond the mere cost of acquiring a specific product or service. Strategic outsourcing addresses the question if those subcontractors possess core competencies complementary to Pfizer's in this case. So, for a company to be considered as a strategic outsourcer it must bring value to Pfizer.

As previously discussed, along its value chain, Pfizer subcontracts in various situations. For example, Pfizer buys APIs from Sigma Aldrich, which is owned by Merck, one of the main competitors of Pfizer. Nevertheless, both Pfizer and Merck agree to see value in this transaction and proceed with it (co-opetition). On the manufacturing stage, CMO's contracted by Pfizer can also be seen as strategic outsourcers as they allow for instance for pharmaceutical companies to shift capacity focus from an older product to newer, higher-value products. When Esomeprazole, Pfizer's prescription heartburn treatment, became an OTC medication, the company lacked the technology required to manufacture the delayed-release, enteric-coated tablets marketed as Nexium. What Pfizer did was to do an agreement with Catalent instead of building internal capacity for an older product. Orphan drugs, more personalized medicine, are produced in smaller volumes as they target a smaller percentage of the population so building a new manufacturing plant or a whole new production line just for a small volume can be an unjustifiable financial investment. Sudden capacity needs can be also addressed through strategic outsourcers. By recurring to CMO's, Pfizer has the flexibility to add capacity to the present production lines without making a major capital investment. They can also use a CMO as they are about to enter a new country.

Even in the logistics/distribution stage, where there are many alternative suppliers and it is an activity that has, in theory, a low level of potential competitive advantage, we can state that Pfizer's outsourcing to DHL brings added value to the business as DHL incorporates in its processes, Pfizer's platform for end-to-end visibility, enabling constant tracking of the products.

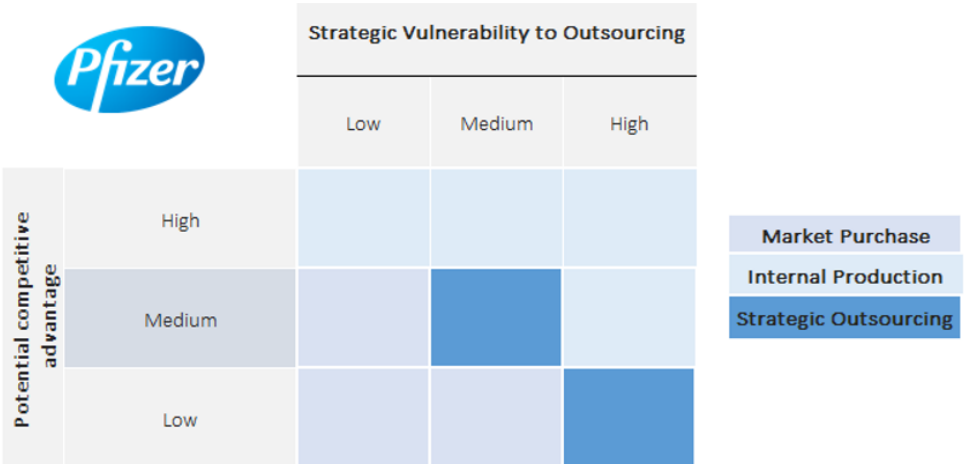


Figure 29 - Outsourcing matrix

As per the table above, Pfizer, as any other company should internalize processes that bring high potential value for its business, such as R&D but the truth is that they also engage in strategic outsourcing in this area as they can bring to the table their technology, knowledge, and resources while reducing the costs that would have been incurred if this process was internalized.

5.7 Internationalization

In many industries, such as commercial aircraft, semiconductors, consumer electronics, and video games, firms have no choice, they must market globally to amortize the huge costs of product development. So is the case of the pharmaceutical industry with the high costs of R&D.

Currently, the United States is Pfizer's largest market, accounting for 46% of total revenue value. This means that the remaining 54% come from foreign markets, suggesting a strong global presence. Pfizer's biggest single markets outside the U.S. are China and Japan. Until 2017, Japan was Pfizer's largest market after the U.S. with 8% of total revenue but, in 2019, China surpassed that value, becoming the most important market outside the home-region, with 9% of total sales. The company sells its products in more than 125 countries globally. Merck also has a similar percentual division of revenue values to Pfizer, with 43% of sales coming from the U.S., 57% from foreign markets, and China as the 3rd most important single market for the company right after Japan ($3.58 vs $3.21 billion in 2019). From 2018 to 2019, Merck alone, achieved a growth of around $1 billion in that region, showing the growth potential that this individual country has in a global scenario. Also, in 2019, apart from the U.S., there were 11 countries where revenues exceeded $500 million. Pfizer operates in more than 90 international markets, including the already mentioned China and Japan, Australia, Canada, Finland, New Zealand, Scandinavia, South Korea, and countries in Western Europe. The company is also growing in emerging markets such as Brazil, India, Mexico, Russia, and Turkey.

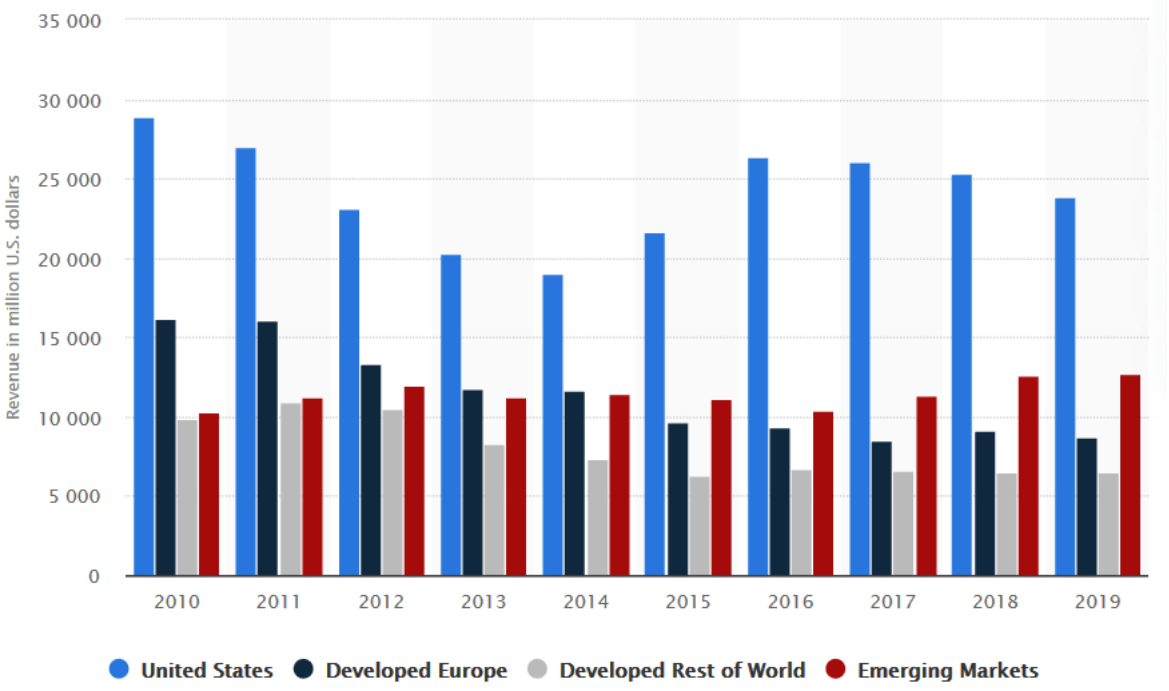


Figure 30 - Pfizer's revenue by regions (2010-2019)

We can see from the previous graph that, since 2010, there is a decreasing tendency in Pfizer's revenue in the developed Europe region (Western Europe, Finland, and Scandinavian countries) as well as in the developed Rest of World region (Australia, Canada, Japan, New Zealand, and South Korea) but to a lower extent. Emerging markets (Asia, Middle East, Eastern, and Central Europe, Latin America, and Turkey) are showing signs of growth mainly driven by China and India. Growth in the Chinese market is helped by rapid

increases in spending on healthcare, although the continued popularity of traditional Chinese medicine limits the benefits felt by the pharmaceutical companies. The Chinese market is also relaxing restrictions on the access of foreign pharmaceutical companies and their medicines, enabling Chinese citizens to access new Western products. In India, improvements in medical infrastructure and the increased penetration of health insurance in the country have driven the growth of the pharmaceuticals market. However, much of this infrastructure is located in urban areas and major cities. Local government is making attempts to expand access to pharmaceuticals in rural India. In the future, this could drive growth in the market. One can also state that since 2016, Pfizer shows an inverse tendency when comparing the emerging markets with the home-region market, United States. This seems to indicate that concentrating more on emerging markets may lead to a loss of focus in the home-region. Granted that emerging markets come with big growth potential, they also have a vulnerable nature with an element of risk originated by unforeseen financial or political events.

But, internationalization processes don't begin and end just with sales values. Pfizer also has major manufacturing facilities in Belgium, China, Germany, India, Ireland, Italy, Japan, Puerto Rico, Singapore, and the US. In all, it operates some 60 plants around the world. Regarding R&D, Pfizer owns two R&D facilities in the United Kingdom, one in Cambridge and the other in Sandwich.

Country Attractiveness

In Pfizer's case, its operations are already widespread globally. Pfizer is already directly present in countries with the best combinations of the highest market size and growth perspectives. So, we decided to run an analysis of the most important countries/region to assess the ones with the best overall attractiveness factor where Pfizer should, perhaps, concentrate their efforts. The three main markets of Pfizer, U.S., China, and Japan were analyzed individually. For the other regions, clusters were formed and assessed in that fashion. Information that supports the following analysis is located in appendix 2.

Pfizer	Countries / Regions						
Factor	Weight	United States	Japan	China	Asia	Europe	Latin America
Sales							
Market Size in Volume	10%	10	6	7	4	8	2
Average Price Level	4%	8	7	5	6	7	4
Access to the Distribution Network	3%	9	7	7	6	9	5
Cultural Proximity	1%	10	6	5	5	8	6
Sales Assessment	**18%**	**1.69**	**1.15**	**1.16**	**0.87**	**1.43**	**0.57**
Growth							
GDP Growth Rate	7%	8	5	9	6	5	2
Population Growth Rate	8%	8	3	8	5	3	5
Market Growth Rate	10%	6	4	9	7	5	2

Openness to International Trends	4%	9	8	7	5	9	7
Growth Assessment	**29%**	**2.16**	**1.31**	**2.45**	**1.72**	**1.45**	**1.02**
Margin							
Access and Cost of Labour	4%	6	6	8	7	5	7
Access and Cost of Qualified Technicians	10%	8	7	6	5	8	4
Cost of Land, Materials and Equipment	2%	2	3	6	5	2	7
Barriers to Imports	7%	8	6	3	5	9	5
Legal Regulation	7%	7	7	5	5	7	4
Margin Assessment	**30%**	**2.13**	**1.91**	**1.6**	**1.58**	**2.16**	**1.45**
Risk							
Foreign Exchange Risk	5%	10	7	5	4	8	3
Political Risk	5%	8	8	4	3	8	4
Competitive Risk	3%	2	3	5	7	3	8
Risk Assessment	**13%**	**0.96**	**0.84**	**0.6**	**0.56**	**0.89**	**0.59**
Sustainability							
Environmental Sustainability	4%	8	7	3	4	8	4
Social Sustainability	4%	8	8	3	4	8	3
Governing Sustainability	2%	8	8	5	5	8	4
Sustainability Assessment	**10%**	**0.8**	**0.76**	**0.34**	**0.42**	**0.8**	**0.36**
Global Assessment	**100%**	**7.74**	**5.97**	**6.15**	**5.15**	**6.73**	**3.99**

Figure 31 - Country attractiveness matrix

As can be seen by the table above it is clear that, in terms of countries, the United States is the most attractive market for Pfizer, as well as to the generality of the whole pharmaceutical industry. In second place comes China, mainly due to a great potential to grow backed by a growing and wealthier population. Pharmaceutical companies are facing a transition period in China as the government has introduced regulatory reforms, which led to price cuts and more intensive competition from local companies, forcing them to shift focus from off-patent drugs, where they face more competition, to a more innovative drugs approach. In recent years Japan is presenting a stagnant tendency in terms of populational and GDP growth rates and intensive competition in the industry. Regarding regions, considering the ones that were analyzed, Europe comes as the most attractive one and Latin America as the least attractive. Latin America receives low scores all-around, a consequence of high-instability in several countries of that region, overall low GDP values and growth rates, and poor infrastructures. Although Pfizer has operations in some of these countries it is refraining from investing in this region as can be shown by the selling, in 2017, of its position in the joint-venture with Laboratórios Teuto in the Brazilian generic market. As for Europe, powered by sales and good margins (despite regulatory efforts from the E.U.) in Germany, United Kingdom, and France, they have a good sales assessment score reflecting market size in that region. Asia, on the other hand, presents a growth potential that Europe is not demonstrating. For instance, India, the main driver of growth in this region (apart from China and Japan which were analyzed separately) has grown from a $15 billion to

a $22 billion market from 2014 to 2019, exhibiting a CAGR of 7.9% (comparable to China's 8.3% in the same period).

In summary, Pfizer should, of course, maintain investment in the home-market as it accounts for almost 50% of total revenue, concentrated in China as most its competitors are doing and where it holds the highest market share for a foreign company (1.5%) and watch closely the evolution of Japan to understand if the decreasing tendency is kept. Regarding regions, in terms of growth, Asia, mainly in India, appears to be the best bet. Europe, due to high buying power and high market penetration, seems to be a good market to keep investing in the short-term.

Firm and Country Advantages

By crossing the countries attractiveness matrix with Pfizer's core competencies, we can classify the previous regions/countries as strategic or complementary markets.

Pfizer		Country Advantages	
		Low Country Advantages	High Country Advantages
Firm Advantages	High Firm Advantages	**Complementary Markets: Latin America and Asia**	**Strategic Markets: United States, Japan, and Europe**
	Low Firm Advantages		**Strategic Markets: China**

Figure 32 - Firm and country advantages matrix

International Integration and Responsiveness

The pharmaceutical industry is highly regulated because most of their products are directly life-related products. Due to strict regulations, the flexibility in changing product characteristics (e.g., indication, appearance) per country or region is low.

Generally, prescription drugs require, as already mentioned, a country's regulatory approval to launch them in other countries or regions. This process is built on a large amount of data that incurs substantial costs and takes a long time. Although pharmaceutical companies and regulatory authorities are working on harmonizing regulations to respond to the globalization of drug development, manufacturing, there are some differences by region. Customer preferences (e.g., the color, taste, and shape of medications), the medical environment (e.g., the number of doctors, hospitals, and access to drugs), and biological and medical factors (e.g., standard body size and disease prevalence) may be some of the factors that differ from region to region. Consequently, responsiveness is limited as drug modification requires a complicated, extensive, and costly process.

For these reasons, we classify Pfizer as a global company.

		Local Responsiveness	
		Low	High
Global Integration	High	Global Company 	Transnational Company
	Low	Local Company	Multinational Company

Figure 33 - International integration and responsiveness matrix

Adaptation vs Standardization

In some industries, the transition from one country to the other may imply deep changes in the product's characteristics. Nevertheless, there are some aspects of the product which cannot and won't have the need to be changed.

	Factors of Adaptation / Standardization					
	Culture / Habits	Design	Language	Size / Packaging	Technical System	Customer / Application
Concept						
Marketing	X	X	X			X
Technology						
Product	X		X			

Figure 34 - Adaptation / Standardization matrix

The matrix above analyses the needs of adaptation versus the possibilities of standardization. As it is clear the factor that needs to be more adapted to the reality of each local market will be the marketing as, for example, marketers must be aware of cultural aspects of the region as there might be sensitive cultural clashes in some regions. The product must be adapted to the cultural factor in the scope of licensing, patenting processes, and, at least, translation of the drug leaflet. Although, size, packaging, and taste are some of the factors that may differ from region to region (customer preferences) as discussed in the previous section we consider that this isn't a major factor in terms of analysis in the adaptation vs. standardization matrix. Overall, medicines have a high degree of standardization as people around the world need the same treatment for the same disease, although some diseases may have slight variations with geographical region.

6 Corporate Strategy

We considered the important question of whether Pfizer can be considered a diversified company. Whilst it is so that Pfizer has undertaken significant product portfolio diversification, which has been discussed above as a core competency of the firm, we could not find any evidence that the company was diversifying its business by embarking upon ventures into industries outside of the pharmaceutical industry itself.

On the contrary, Pfizer has become more focused and decided in 2012 to move away from a more diversified business model when it divested it's animal health and infant nutrition businesses.

The company has also recently taken steps to move away from the consumer healthcare business via the GSK joint-venture, thereby sharpening its focus even further.

For these reasons we will not be analyzing business diversification and will move straight to the company's business portfolio planning steps and analyze them, concerning the two matrices referred to hereunder.

6.1.1 Business Portfolio planning

We now consider the firm's portfolio planning, with specific reference to the GE/McKinsey and BCG matrices.

"In a bold move, Pfizer's previous CEO, Ian Reid (who now plays the role of Pfizer's Executive chairman), decided in 2012 to consolidate the business around five areas: cardiovascular, cancer, neuroscience, vaccines and inflammation/immunology. Over the next four years, the company added a rare disease area to the group. Redirecting resources in the company, Pfizer closed the famed Sandwich research campus in England, which was the birthplace of Viagra and laid off more than 2000 employees because its focus was on areas no longer included in the new direction of the company. The company then commenced with negotiations to purchase Allergan, a pharmaceutical company based in Ireland to move its corporate headquarters to Ireland. It was anticipated that the move could provide a tax windfall to the company of as much as US$35 billion. However, as we have already discussed above, the Allergan deal did not materialize and was met with much resistance." (Wheelen, p 223)

One of the key issues facing the corporation which must be addressed when considering the firm's corporate strategy is the firm's portfolio analysis. Management must consider the question in which industries or markets the firm will compete through its products and business units?

Corporate strategy is primarily about the choice of direction for a firm as a whole and the management of its business or product portfolio.

Management must regularly ask themselves whether the firm should expand or cut back operations, whether it should concentrate activities within its current industry (as Pfizer is currently doing) or diversify into other industries and whether the firm must grow and expand globally and whether to do so via internal development or through external acquisitions, mergers or strategic alliances.

Pfizer has chosen a concentration growth strategy and has done so *via* mergers and acquisitions, strategic alliances, and collaborative agreements (discussed below).

Once the competitive strengths of the company have been identified and depending on whether these strengths are attractive to the industry, a business portfolio planning model, such as the **GE/McKinsey matrix**, can assist management in decision-making in four distinct areas:

- Formulation of corporate and business strategy
- Establishment of general performance objectives for each business
- Rebalancing the business portfolio
- Resource allocation.

Rebalancing of the business portfolio ensures that the optimal business strategy of the company is followed to ensure long-term profitability.

The competitive strengths of Pfizer have been identified in part 5.5 above.

In the VRIO framework, we analyzed the competitive advantage of each of the company's core competencies. Three competencies were regarded as giving the company a sustainable competitive advantage.

A. Product line and product pipeline (R&D)

B. Diverse and specialized product portfolio

C. Pfizer's size and financial position.

Our overall analysis of the firm's competitive strengths appears from the matrix and comments relating to specific strengths of Pfizer appear below the table.

		COMPETITIVE STRENGTH		
		LOW	MEDIUM	HIGH
INDUSTRY ATTRACTIVENESS	HIGH		CONSUMER HEALTHCARE**	BIOPHARMA
	MEDIUM		UPJOHN**	
	LOW			
	COMMENTS	** DENOTES THE COMPANY'S POSITION PRIOR TO 2018 GSK CONSUMER HEALTHCARE JV AND THE 2019 DIVESTMENT OF UPJOHN. FROM MID 2020 ONWARDS THESE BUSINESS UNITS WILL NO LONGER FEATURE AS PART OF THE PFIZER BUSINESS.		

Figure 35 - Pfizer's GE/McKinsey matrix

Comments:

We see a similar outcome in the above matrix when compared to Pfizer's strategic fit dealt with in part

Product pipeline: In our view, the company should protect this position by investing to grow as much as possible and continue focusing its efforts on building sustainable growth of its three business segments namely innovator drugs, orphan drugs, and generics.

Diverse product portfolio: Pfizer's management should continue investing in this portfolio to grow further, gain leadership in the industry segments, and keep focusing the firm's efforts.

Pfizer's size and strong financial position: The firm should manage returns, protect the business to ensure its longevity, and keep clear of risks that may affect its financial position whilst continuing to invest thereby strengthening returns.

6.1.2 BCG matrix

Another matrix available to management to assess the company's relative market share compared to the market growth rate is the **BCG matrix**. This matrix offers the simplest way to portray a corporation's portfolio of investments and each of the corporation's product lines or business units is plotted on the matrix according to both the growth rate of the industry in which it competes and its relative market share.

We have used the largest contributor to Pfizer's 2019 revenue, the biopharma operating segment, in the BCG matrix. This segment produces the firm's prescription (innovator) drugs.

Key statistics relating to this segment of the business are:

Total market share for prescription drugs (2019): $360.3 billion
Biopharma segment's 2019 revenues: $37.6 billion (11% of market).
Growth rate**: 5%** (2019 figured compared to 2018 when it grew 6.25% from the previous year).

For the firm to retain its position in the top 3 biopharmaceutical companies globally, a concerted effort has been taken by the company over the past number of years to divest itself of those segments of the business which may be less profitable and which may come under threat soon.

We considered the revenues generated from prescription (innovator) drug in part 3.2.b above and noticed total sales during the period 2010 through 2019 had a CAGR of **1.4%.** The **biopharma segment** of the Pfizer business which grew **6.25%** and **5%** respectively in revenues year on year has, therefore, compared favorably with the industry. This **business segment** has earned the "star" rating we have assigned to it below.

NOTE: We did not include the revenues earned by remaining reportable Upjohn business segment in our strategic analysis on a forward-looking basis, due to the following reasons:[23]

- Its business is due to being combined with that of Mylan NV in the new entity, Viatris; and
- it sells **both** off-patent branded drugs (eg Lipitor and Viagra) and generics, and therefore cannot fairly be compared with companies that sell only generics competing in the generics segment of the industry. One should bear in mind that one of the reasons why Pfizer will benefit from the Upjohn Mylan

[23]https://info.evaluate.com/rs/607-YGS-364/images/EvaluatePharma

transaction is largely due to Mylan's revenues representing 15% of the total global revenues earned in the generics market in 2018 (of $75bn). Upjohn did not even feature in the top 10 revenue earners of (pure) generic drugs.

However, to reflect the position pre-2019 transaction with Mylan NV, we included Upjohn in the matrix below (for illustrative purposes only) purely to gain an insight into why the company probably concluded that it would be the correct strategic decision to divest the Upjohn Business segment.

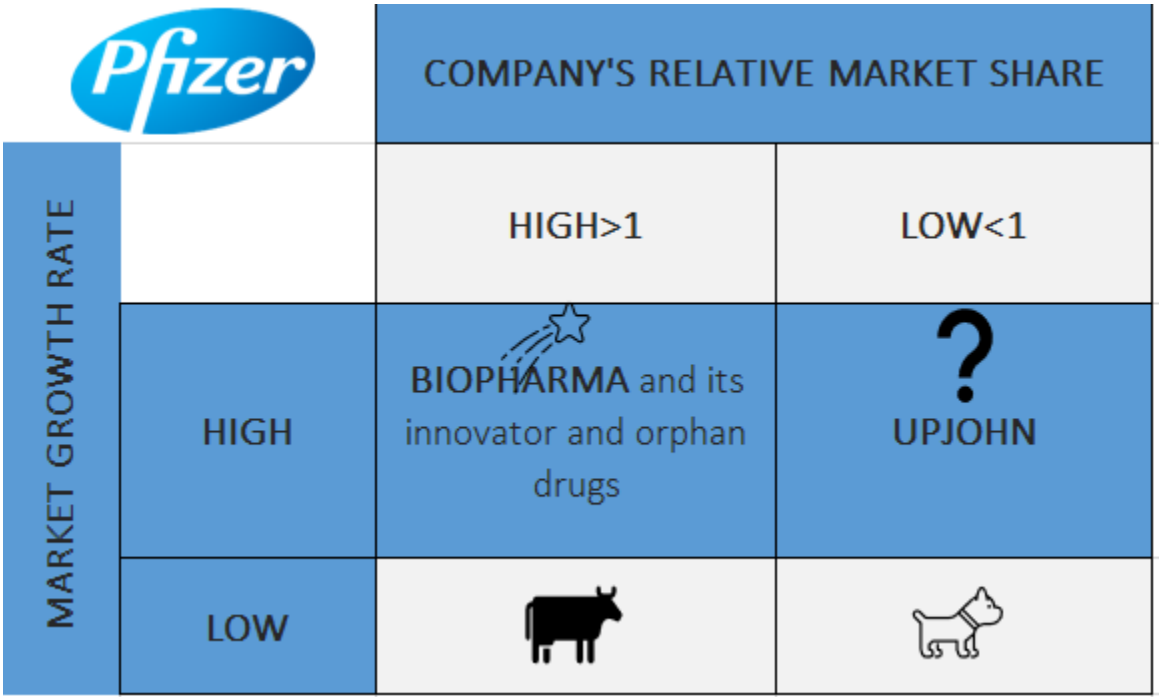


Figure 36 - Pfizer BCG matrix

6.1.3 Corporate development

Pfizer has undertaken major corporate development, both internally and externally, over the past decade. We have already dealt with the **internal** corporate developments under Business portfolio planning above. We will shortly deal with Pfizer's recent **external** corporate developments but, before we do so, we highlight the two most notable recent corporate developments of the company:

"*At the beginning of our fiscal year 2019, we began to manage our commercial operations through a new global structure consisting of three businesses, each led by a single manager—Pfizer Biopharmaceuticals Group (Biopharma), Upjohn and, through July 31, 2019, Pfizer's*
Consumer Healthcare business. We designed this new global structure to take advantage of new growth opportunities driven by the evolving and unique dynamics of relevant markets."

"*Subsequent to the re-alignment of our commercial operations in 2019, on July 29, 2019, we announced that we entered into a definitive*
agreement to combine Upjohn with Mylan, creating a new global pharmaceutical company, Viatris... We believe the new company will transform and accelerate Upjohn's and Mylan's ability to serve patients' needs and expand their capabilities across more than 165 markets. "
(taken from the Pfizer 2019 Financial report, pages 2 and 3).

Pfizer's significant external corporate developments over the past 4 years:

- New GSK Consumer Healthcare Joint Venture

On July 31, 2019, this transaction was completed in which Pfizer and GSK combined their respective consumer healthcare businesses into a new consumer healthcare joint venture that operates globally under the GSK Consumer Healthcare name. The joint venture, in which **Pfizer holds an equity share of 32%**[24] is expected to be a category leader in pain relief, respiratory and vitamins, minerals and supplements, and therapeutic oral health and will be the largest global OTC consumer healthcare business.

- Array Biopharma

Array was acquired by Pfizer on July 30th, 2019. It is a commercial-stage biopharmaceutical company focused on the discovery, development, and commercialization of targeted small molecule medicines to treat cancer and other diseases of high unmet needs.

- Agreement to Combine Upjohn with Mylan N.V.

On July 29, 2019, Pfizer announced that it had entered into a definitive agreement to combine Upjohn with Mylan, creating a new global pharmaceutical company, Viatris. Under the terms of the agreement, which is structured as an all-stock, Reverse Morris Trust transaction, Upjohn is expected to be spun off or split off to Pfizer's shareholders **who will hold 57% shares** in the new company[25] and, immediately thereafter, combined with Mylan. As recently as 22 April 2020, it was reported that the European Commission had approved Mylan's planned purchase of Upjohn, subject to conditions.[26]

- Acquisition of Therachon Holding AG

On July 1, 2019, Pfizer acquired all the remaining shares of Therachon, a global biotechnology company specializing in rare disease medicines treating conditions like Achondroplasia and Short Bowel Syndrome.

- Sale of Hospira Infusion Systems Net Assets to ICU Medical, Inc.

On February 3, 2017, Pfizer completed the sale of its global infusion systems net assets, HIS, to ICU Medical.

- AstraZeneca's small molecule anti-infective business

In 2016 Pfizer acquired the development and commercial rights from AstraZeneca, primarily outside the US, including commercialization and development rights to market the products.

[24] https://www.gsk.com/en-gb/media/press-releases/glaxosmithkline-plc-and-pfizer-inc-to-form-new-world-leading-consumer-healthcare-joint-venture/

[25] https://mrvirk.com/viatris-mylan-upjohn-merger.html#Merger_Summary

[26] https://uk.finance.yahoo.com/news/eu-clears-mylans-purchase-pfizers-163116794.html

- Medivation Inc

This company was acquired by Pfizer during 2016. The company is focused on developing and commercializing small molecules for oncology.

Collaborations:

We also mention, for the sake of completeness, the following other less rigid corporate development initiatives undertaken by Pfizer:

- Akcea Therapeutics, Inc.

In October 2019, Pfizer entered into a worldwide exclusive licensing agreement with Akcea, for AKCEAANGPTL3-LRx, an investigational antisense therapy being developed to treat patients with certain cardiovascular and metabolic diseases.

- Shire International GmbH

In 2016 Pfizer out-licensed an investigational biologic being evaluated for the treatment of moderate to severe inflammatory bowel disease including ulcerative colitis and Crohn's disease, to Shire for an upfront payment of $90 million up to $460 million in development and sales-based milestone payments and potential future royalty payments on commercialized products.

- BionTech AG

In August 2018, a multi-year R&D arrangement went into effect between Pfizer and BionTech, a privately held company, to develop vaccines for the prevention of influenza.

- NovaQuest Co-Investment Fund V, L.P.

In April 2016 the company entered into an agreement with NovaQuest under which the latter would fund up to $200 million in development costs related to phase three clinical trials of Pfizer's rivipansel compound and Pfizer would use commercially reasonable efforts to develop and obtain regularly approvals for such compound.

- RPI Finance Trust

In January 2016 Pfizer entered into an agreement with RPI under which RPI would fund up to $300 million in development costs related to certain phase three trials of Pfizer's Ibrance product primarily for adjuvant treatment of hormone receptor-positive early breast cancer.

- Collaboration with Merck & Co., Inc.

Under a worldwide collaboration agreement, except for Japan, Pfizer collaborated with Merck on the clinical development of ertugliflozin and ertugliflozin-containing fixed-dose combinations with metform

and Januvia (sitagliptin) tablets which were approved by the FDA in December 2017 and the EC in March 2018. The company shares revenues and costs on a 60%/40% basis with Pfizer having a 40% share.

- Collaboration with Eli Lilly & Company

In 2013 Pfizer entered into a collaboration agreement with Lily to jointly develop and globally commercialize Pfizer's tanezumab. The collaboration agreement provides that Pfizer and Lilly will equally share product development expenses as well as potential revenues and certain product-related costs.

- Collaboration with Merck KGaA

In November 2014 the company entered into a collaborative agreement with Merck KGaA to jointly develop and commercialize avelumab, currently approved as a metastatic medicine known as Bavencia in the US, the EU and Japan, and select other markets for the first-line treatment of patients with advanced Renal cell carcinoma in these markets.

Value creation in corporate development:

Corporate development embarked upon by a firm must ensure that sustainable value is created in the four value creation components, growth, margin, risk, and sustainability. We discuss the following corporate developments in Pfizer with specific reference to these components:

Growth:

Pfizer is seeking more sustainable growth moving forward from an era of revenue stabilization. This seems to be achievable with the new more focused approach of the company in terms of the products which it will pursue. The company has set itself certain goals and objectives to achieve effectiveness and efficiency. We comprehensively dealt with this in part 1.3 above and those growth objectives are to be read together with what follows.

It is clear from the value and growth analysis in part 3.2 B above that the three main segments of the innovative, orphan, and generic drugs have shown strong growth and are forecasted to continue with this growth through to at least 2024. This growth will be spurred with the emergence of novel technologies such as cell and gene therapy marking an inflection point in the evolution of pharmaceutical science. The growth which the company has achieved has focused around market penetration, product, and market development initiatives and product diversification.

The company has developed an extensive product portfolio and the effectiveness of this diversification strategy has been improved by the commitment of the firm's management team in investing in a more streamlined and efficient R&D program. Pfizer has also focused on the effective marketing of the firm's products and established the number of businesses as already described herein.

Pfizer is committed to capitalizing on growth opportunities by advancing its pipeline and maximizing the value of its in-pipeline products. The CEO commented as follows in the financial report for 2019:

"We believe we have one of the strongest pipelines we have had in over a decade, and we believe we are well-positioned for future growth. Additional Patent expires will continue over several years, and we expect

the impact of reduced revenues due to patent expiries will be significant in 2020, then moderating downwards to a much lower level from 2021 through 2025." (Financial report, p 8)

The company is committed to capitalizing on growth opportunities through various forms of business development. This includes the alliances, licenses, joint ventures, and mergers and acquisitions referred to above. The company views its business development activities as an enabler of these strategies and seeks to generate earnings growth and enhance shareholder value by following a disciplined, strategic, and financial approach when evaluating these business development opportunities.

The firm has, therefore, organized itself to maximize growth opportunities for its products and the market in which they are sold.

With the Akcea license agreement, Pfizer can address the needs of patients who suffer from cardiovascular and metabolic diseases.

With the GSK joint-venture, the lower growth segment of consumer healthcare products has been eliminated.

The acquisitions of Array, Therachon, Medivation, and Astra Zeneca's small molecule anti-effective business, as well as collaborations and alliances and license agreements with other companies all, have the potential to strengthen the company's businesses and their capabilities.

Pfizer decided to proceed with the Upjohn Mylan NV transaction as part of a strategy allowing it to focus on its more profitable newer medicines. The new company created in the process, Viatris, will be well-positioned to capture the growing need for accessible medicines around the globe.

Margin:

Due to Pfizer's more focused approach, we expect that it will be able to develop its technologies with greater profitability resulting in increased barriers to entry for new competitors lacking the technological know-how achieved by Pfizer. The margin will also be positively influenced by the elimination of the lower value consumer health segment of the business, as discussed below.

Pfizer's financial margin objectives are clear – to increase the five-year revenue CAGR on a risk-adjusted basis to 6%. From an efficiency point of view, its objectives with margin are to retain the cost of sales to levels not exceeding 21% of revenues in 2020. This objective may require an adjustment due to the COVID-19 global pandemic and its impact on the firm's operations.

We have already seen that the estimated net margins for Pfizer's innovator and generic drug segments are high (28% and 18%) with the firm's patent protection being the main driver allowing the firm to recover its high R&D costs. See in this regard part 3.2 C above.

The formation of the new consumer healthcare joint-venture with GSK is an example of how the company has, via corporate development, decided to address its less profitable segment of the business being the so-called OTC (Over the Counter) unit.

Pfizer hopes to leverage off significant cost savings from the joint-venture due to the exploitation of scope economies that the JV is expected to achieve. In this way, the transaction will hopefully also make financial sense and reduce costs which previously affected its margins.

Pfizer expects net cost savings of about $1bn to be achieved over the three years 2020-2022. (Financial report, p 33).

Internal business restructuring changes, as dealt with above, have aided the firm is focusing on a simpler, more efficient operating structure within each business as well as the functions that support them. By aligning the company around its new structure and combining its external corporate development initiatives taken, as discussed above, Pfizer states having achieved savings of approximately $1.6bn. (Financial report, p 33).

Risk:

Several risks impact biopharmaceutical operations globally which includes governmental restrictions on access to medicines. Significant portions of Pfizer's revenues, costs, and expenses as well as it's substantial international net assets are exposed to changes in foreign exchange rates. The firm seeks to manage this risk in part through operational means including managing the same currency revenues concerning the same currency costs. Depending on market conditions foreign exchange risk is also managed using derivatives financial instruments and foreign currency debt. The impact of possible currency devaluations in countries experiencing high inflation rates or significant exchange fluctuations including Venezuela and Argentina can also impact the firm's results and financial guidance.

The GSK joint-venture and combination of Upjohn and Mylan NV are expected to strengthen the firm's competitiveness. The risk of high costs from the consumer healthcare side of the business has effectively been mitigated.

The firm's risk assessment was performed in part 3.2 D and indicates a high-risk coefficient (21.7) in the orphan drugs segment with moderate risk in the innovate and generic drug segments (11.1 and 8.7). By diversifying its product portfolio, the company can decrease such risks.

The abovementioned transactions concluded by Pfizer over the past 4 years are expected to lead to a strengthening of the overall competitiveness of current businesses, due to synergies with new businesses and the diversification of sales weight across different businesses.

Sustainability:

The new more focused approach of Pfizer's operations is expected to translate into access to more sustainable new businesses with larger growth potential and more sustainable products being developed by Pfizer.

With the formation of GSK consumer healthcare joint venture and the pending combination of Upjohn with Mylan, Pfizer is transforming itself into a more focused, sustained, global leader in science-based innovative medicines.

Sustainability can reasonably be expected from a more focused company such as the one which Pfizer hopes to transform into. Its aim with the abovementioned corporate developments is to "support and drive

the purpose of the three core functions of our focused innovative medicines business: R&D, Manufacturing and Commercial." (Annual report, p9).

Also, the Upjohn Mylan NV transaction should enable the new company, Viatris, to have increased ability to serve patient needs whilst the combination will drive a sustainable, diverse and differentiated portfolio of prescription medicines, complex generics, over-the-counter products and biosimilars supported by commercial and regulatory expertise, established infrastructure, R&D capabilities, and manufacturing and supply chain excellence.

Discussion of Pfizer's corporate development alternatives:

The above corporate development alternatives range between:

1. ones which have a high degree of internalization of development and strategic control (Pfizer's internal reorganization)
2. ones which have a high level of strategic control but an intermediate level of integration (the acquisitions)
3. ones which have intermediate levels of both strategic control and integration of the strategic alliances)
4. ones with a low degree of strategic control and integration (the collaboration agreements).

The advantages of the internal development undertaken by the company are the generation of new core competencies, increased business stability, gradual investment, and capturing of technological and commercial synergies. We believe that the relative disadvantages of internal development such as the higher cost of overcoming entry barriers, the risk of technological delay, and scale diseconomies are outweighed by the benefits.

The advantages of the acquisitions undertaken by Pfizer can be summarized as the speed of entry into new markets, access to complementary competencies, improving the joint competitive position of the companies, and taking advantage of financial development and cost savings through synergies. On the other hand, it is so that they are also disadvantages to acquisitions, in Pfizer's case, high initial investment costs and restructuring costs and potential hurdles in the integration of cultures and the risk of conflicts of interest.

The joint-venture with GSK is beneficial for Pfizer since it has been able to divest its less profitable Consumer Healthcare business unit and stands to benefit the significant cost savings, due to synergies between the two companies, which are expected to them both.

The collaboration agreements have distinct advantages including increased operational flexibility, harnessing the core competencies of the external firms in gauged by Pfizer, and concentrating the resources in core activities.

The GSK joint-venture, as a form of strategic alliance, offers a degree of flexibility in the relationship between Pfizer and GSK and the extent of the resources or activities involved. The joint venture will be operated under the GSK Consumer Healthcare umbrella which means less operational involvement on the part of Pfizer.

The advantages of the joint-venture with high investment by Pfizer include a very stable relationship with an expected high level of trust and mutual commitment. On the other hand, long negotiations and high time investments were required to achieve the JV and possible conflicts of interest going forward cannot be excluded.

Lastly, to assess the alliances referred to above, Pfizer had to identify, in advance, in which activities of the value chain its competencies needed to be strengthened to adapt the nature of the alliance to its strategic objectives. The JV between Pfizer and GSK is regarded as a fairly rigid type of alliance. From a value chain perspective, specifically, Pfizer‘s R&D division will play an important role in ensuring the success of the JV. The purchasing, operations, marketing and distribution functions of the value chain will probably be the responsibility of GSK.

Concluding this part of the report, we note that, Pfizer’s corporate development alternatives could have the unintended consequence of an intensification of the competitive market rivalry. Hence, a careful balance must be struck between the degree of strategic independence and the degree of technological and/or commercial development when Pfizer manages these alliances.[27]

[27] https://uk.finance.yahoo.com/news/eu-clears-mylans-purchase-pfizers-163116794.html

7 Planning & Implementation

7.1 Planning

7.1.1 Corporate Structure

Before 2018, Pfizer Biopharmaceuticals group consisted of seven commercial business units. Together these businesses strived to deliver transformational medicines that addressed major global health priorities in cancer, rare diseases, inflammation and immunology, primary care, infectious diseases, and preventative care with vaccines.

2018

In 2018 Pfizer announced that it would re-organize itself in three core business units:

- a science-based innovative medicines business (which includes biosimilars and a new hospital business unit for anti-infectives and sterile injectors)
- an off-patent branded and generic Established Medicines business operating with substantial autonomy within Pfizer; and
- the consumer healthcare business.

These changes would take effect at the start of the company's 2019 financial year.

The new structure represented a natural evolution of these businesses given the ongoing strength of the company's in-market products and its late-stage pipeline and expected significant reduction in the impact of patent protection losses post-2020, following the loss of exclusivity for Lyrica in the US which was expected to occur in or after December 2018.

Ian Read the previous Pfizer chairman and chief executive officer (current executive chairman) stated the following in this regard:

"*As we transition to a period post-2020 where we expect a higher and more sustained revenue growth profile, we see this new structure better positioning each business to achieve its growth potential*".

The innovative medicines business would include all of the current innovative health business units as well as the new hospital medicines business unit which would commercialize the company's global portfolio of sterile injectable and anti-infective medicines lines, with an increased focus on customer-centricity.

The company would also incorporate its biosimilar portfolio into its oncology and inflammation and immunology business units. These units were regarded to possess significant therapeutic area expertise in the medical, commercial, and patient experience domains and were expected to provide a strong commercialization platform for these medicines.

The Established Medicines business was expected to generate sustainable modest revenue growth despite the impact of the expected loss of exclusivity of Lyrica in the US in or after December 2018.

Urbanization and the rise of the middle class in emerging markets particularly in Asia were providing additional access opportunities and generating significant demand for branded and generic established

medicines. The company believed that it was well-positioned to be a leader in this significant and rapidly growing market.

The consumer healthcare business would include all the over-the-counter medicines and would continue to operate relatively autonomously with dedicated manufacturing and regulatory capabilities.

2019

In July 2019 the company announced the plan to combine Upjohn, it's off-patent branded and generic Established Medicines business with Mylan N.V. a global pharmaceutical company with a diverse portfolio and a global reach, to create a new champion for global health uniquely positioned to fulfill the world's need for medicine.

By bringing together the two companies' strengths, resources, and portfolios, the combined organization would be able to fulfill the growing need for accessible medicines around the globe.

The new company, Viatris, would have a commercial presence in more than 165 countries driving a sustainable diverse, and differentiated portfolio of prescription medicines including iconic brands such as Lipitor, Lyrica, and Viagra.

Dr. Albert Bourla (CEO) stated the following in this regard:

We are creating a new company poised to bring world-class medicines to patients across a wide range of therapeutic areas. I believe that Mylan's unique profile and strategy have made the obvious partner of choice in creating this powerful combination. By bringing Mylan's growth assets to Upjohn's growth markets, we will create a financially strong company with a truly global reach. For Pfizer, this transaction represents our sharpened focus on innovative medicines and is a testament to our purpose – breakthroughs that change patients' lives".

As we have already explained, the Consumer Healthcare segment of Pfizer's business will become part of the GSK Consumer Healthcare business in terms of the JV concluded with GSK.

2020 and onwards

Pfizer will go into the new decade with a lean organizational structure consisting of only one reportable segment being the Pfizer Biopharmaceuticals Group.

Since the corporate structure of Pfizer is proprietary and is not made public by companies such as Pfizer, we were unable to obtain an organogram to display in this report.

7.1.2 Strategic and Operational plans

The strategic plan should focus on corporate and business strategy alike. Its focus is the medium to long-term and this is the responsibility of top management and the executive team.

Operational planning is the responsibility of leaders in the organization in charge of the finance and management planning functions where the focus is generally the shorter term with regular reviews to take place.

The strategic plan of the company can detail the origin of sustainable value by cross-referencing the strategic dimensions (product markets, vertical integration, internationalization, and diversification, if applicable) with the internal and external development alternatives. We have discussed both these in departs they proceed this part.

As can be seen from the matrix (see figure 28) below:

1. We have assessed that Pfizer's corporate development initiatives (in the form of mergers and acquisitions) have the heaviest weighting in the product-markets and vertical integration sectors strategic dimensions.
2. However, when it comes to the strategic dimension of internationalization, the firm's strategic alliances have the heaviest weighting.

		STRATEGIC DIMENSIONS				
		PRODUCTS-MARKETS	VERTICAL INTEGRATION	INTERNATIONALIZATION	DIVERSIFICATION	TOTALS
MODES OF CORPORATE DEVELOPMENT	INTERNAL DEVELOPMENT	10%	7%	12%	0%	28%
	CD-MERGERS AND ACQUISITIONS	18%	17%	3%	0%	38%
	CD-STRATEGIC ALLIANCES	3%	8%	13%	0%	25%
	CD-MARKET TRANSACTIONS	2%	2%	5%	0%	8%
	TOTALS	33%	33%	33%	0%	100%

Figure 37 - Sustainable value chart of Pfizer extracted from company strategic plan: dimensions versus corporate development

What can one deduce from this? We would suggest that the weightings tend to reflect the factual position in this firm and that Pfizer's products-markets are heavily influenced by its merger and acquisition activity. It is well known that companies in the same industry as Pfizer earn a significant proportion of their revenues from technologies that they have acquired as opposed to self-developed technologies.

As far as strategic alliances are concerned, these are a key element in enabling the company to cross over its borders and sell its products in different jurisdictions.

7.1.3 Planning under uncertainty

The year 2020 will probably go down in history as the year when the global macro and micro economical environments were affected the most (in a negative way) since the Second world war. Commentators argue that the economic fallout will be greater than the Great Depression given the global reach of the pandemic.

The healthcare and pharmaceutical industries have despite this glum picture, managed to post positive returns for their shareholders in the first quarter of 2020 when all other industries been unable to do so.

This much is apparent from the distribution of year-to-date total shareholder returns graph-see the following graph.

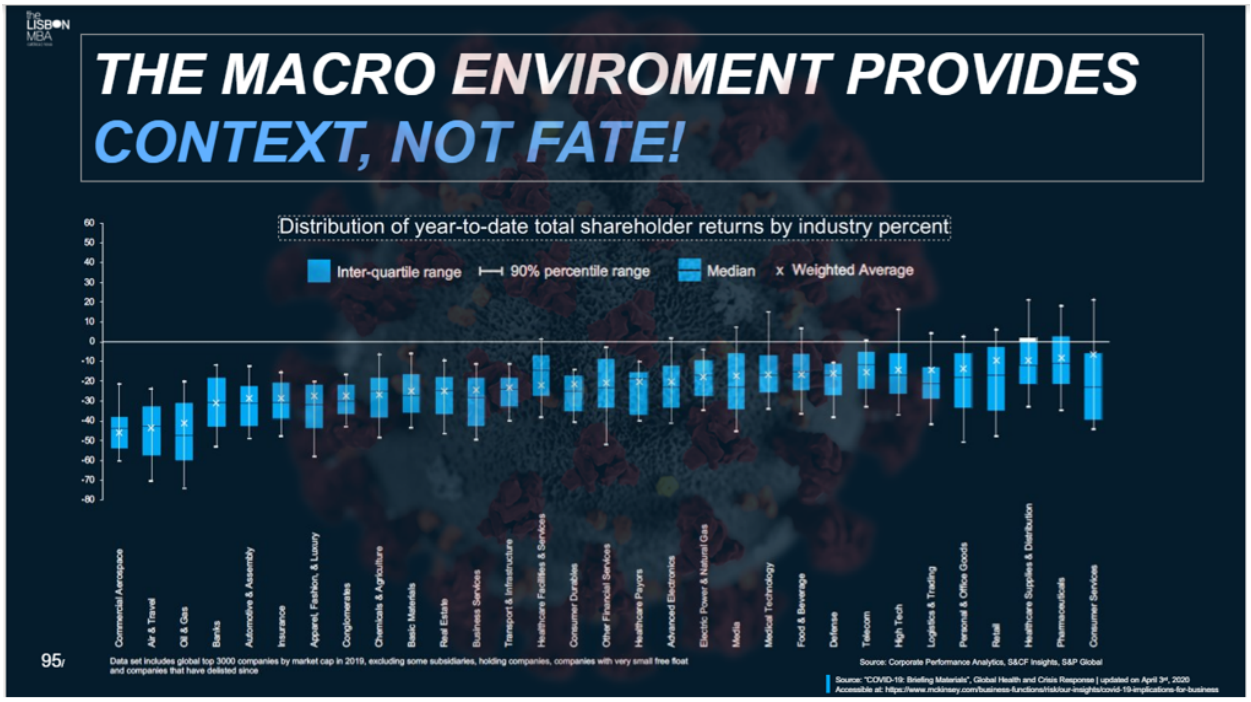


Figure 38 - YTD distribution of total shareholder returns-all global corporate sectors

In a recent report, McKinsey suggests five steps to be taken by companies in these uncertain times:

1 Workforce protection

2 Supply chain stabilization

3 Customer engagement

4 Financials stress testing

5 Nerve-center integration

We include the visual from the McKinsey report providing further details on exactly what is meant with each of these action items suggested by this consulting firm. See the following exhibit[28].

[28] https://www.mckinsey.com/business-functions/risk/our-insights/covid-19%20implications-for-business

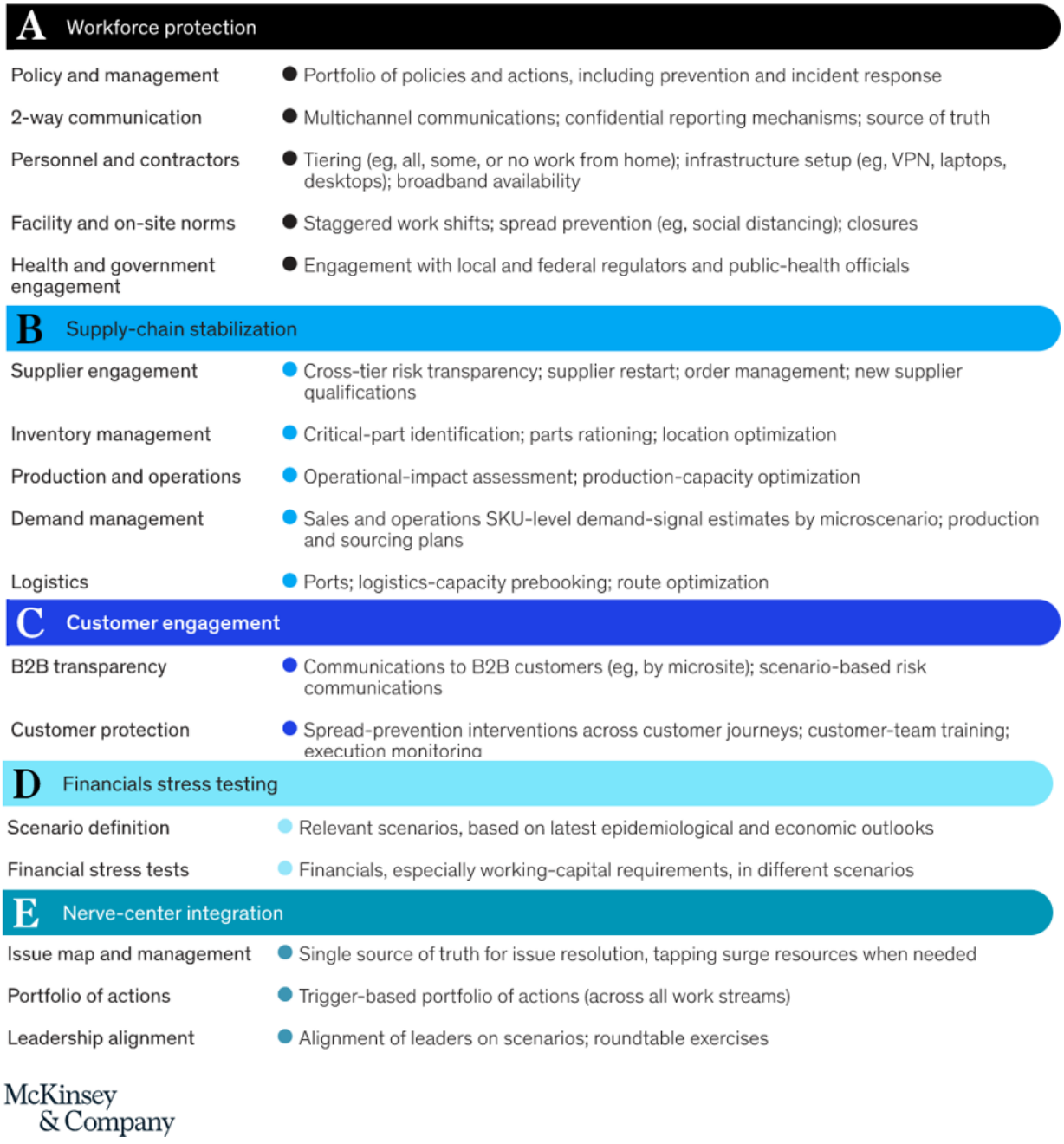


Figure 39 - Sustainable value chart of Pfizer extracted from company strategic plan

Recommendations:

As far as Pfizer is concerned, we would recommend a reassessment by the company of its current supply chain and how those companies, to which Pfizer outsources the distribution function, have dealt with the consequences of the pandemic. This will ensure that even when the company itself is still manufacturing drugs, especially vaccines for the treatment of patients suffering from the virus, the last mile will be covered. One can think of few worse challenges for a pharmaceutical company to face than when vaccines are available for distribution and application, but the supply chain is compromised and cannot reach.

Another focus area to be dealt with simultaneously is to manage customer expectations. The protection of the workforce is as important, and we make certain suggestions below regarding safeguarding the health of employees.

When analyzing uncertainty patterns, management should generally assess the pattern before trying to deal with uncertainties.

Comparing the level of relative uncertainty with the potential of management's control over the source thereof, the company that is facing the economic outfall of COVID/19 should consider the following:

1. Having an intellectual understanding of something like a pandemic is not the same as internalizing the reality.
2. Employee safety is paramount, but mechanisms are often in-effective (temperature checks are not effective given that the virus makes transmit asymptomatically). T seems clear that employees working from home can be as effective and productive, whilst being safeguarded in the best possible way from infection.
3. Optimism about the return of customer demand is dangerous. The ripple effect of economic outfall cannot be underestimated.
4. Assumptions across the enterprise are misaligned. There should be a collaboration between organizational units to avoid a silo mentality.
5. The near term is essential, but one should not lose focus of the longer-term (which might be worse). In this regard despite stimulus which may assist credit markets, they may still seize, and supply chain resilience will be at a premium.

7.2 Implementation

7.2.1 Functional and process management

Pfizer like most companies makes use of the functional structure at the foot of its hierarchy to convert corporate strategy into the day-to-day activities of the company.

We have considered activities the which companies usually undertake within the functions of human resources, research, and development, operations, marketing and sales, finance, and information systems.

We have especially considered human resources and operations and comment as follows on our recommendations for Pfizer in this regard:

Human resources:

Pfizer has a significant workforce of more than 88,000 employees. They constitute the company's most significant asset. Much attention should be paid when aligning strategy with day-to-day activities by

showing that the recruitment function is optimized. Scientists and biochemists alike are in high demand and recruiting the best people for the job is vital for the successful implementation of Pfizer's corporate and business strategies.

Operations:

The smooth operation of processes within Pfizer is as important as the persons driving the process. To this end and as can be seen from the discussion on vertical integration, certain strategic outsourcers of the company possess core competencies that add value which Pfizer is not able to match. Strong relationships must be maintained with such outsourcers and the key role players in the supply and distribution chains. This is particularly important in uncertain times such as the current pandemic which has brought most of the global industry to a standstill save for the pharmaceutical and healthcare industries. This makes it even more important for Pfizer to entrench its relationships with these important role players.

7.2.2 Strategic management Control

To conclude, we consider the strategic management control system and the useful tool below which enables managers to regularly monitor and adjust a firm's performance in the important areas of its value creation objectives as well as in the strategic objectives associated with the firm's key success factors.

We believe that a quantitative analysis rendering meaningful results can be undertaken when analyzing value creation objectives, as can be seen from the chart below. However, we found it challenging to find criteria which are capable of being objectively assessed when attempting to attach values to the strategic objectives by key success factor. Therefore, we relied on our earlier assessment of these factors in allocating values to them. See the following chart.

		CURRENT PERIOD			PREVIOUS PERIOD	
Factor	Example indicator	Obj.	Real	Dev	Real	Var.
	Value creation objectives					
Growth	Current vs previous period revenue	52bn-54bn	51.750bn	-4%	53.647bn	2%
Margin (nett operating)	EBIT/ REVENUES		34.20%		22.20%	
Risk	Customer concentration: aggregate of top 3		79%		78%	
Sustainability	CO2 emissions (baseline 2012: 2.15)		1.70		1.67	
	Strategic objectives by Key Success factor					
Pricing			3.3			
Availability			5			
Innovation			5			
Brand perception			5			
Patent protection			4.3			
Govt incentives			5			

Figure 40 - Pfizer strategic management control

CONTROL

We now reach the end of this report where aspects which are still of vital importance, but which are often overlooked when they are not mentioned earlier, should be touched on. We refer to corporate governance control and systems. Currently, given that there are much more topical (and popular) corporate issues in circulation for companies to consider, corporate governance has almost become a checkbox item. However, one cannot lose sight of the importance of proper corporate governance systems being in place to protect all stakeholders of the company.

Pfizer has a clear set of all the policies including the role of the lead independent director and director qualification standards as well as codes of business conduct and ethics for members of the board of directors. Furthermore, each of the committees has a comprehensive charter explaining the status of the committee, its purpose, and the responsibility of committee members and emphasizing the necessity of regular meetings to be held.[29]*Table 10 Pfizer Strategic Management Control System analysis*

[29] https://investors.pfizer.com/corporate-governance/board-committees-and-charters/default.aspx

Appendix

1 Strategic Managers

Board of Directors -only selected members are discussed for the sake of brevity, a full list of members of the board is available[30]

The board is a group of well-respected professionals, with vast backgrounds and experience in various industries several of whom have themselves led/ currently lead major international companies.

Albert Bourla, Chairman and Chief Executive Officer with more than 25 years at Pfizer and ranked as Americas top CEO in the pharma sector in 2020 by the Institutional Investor magazine.

Ronald Blaylock, an experienced finance professional who held senior positions at amongst others UBS and who heads the compensation, audit, and science and technology committees.

Shantanu Narayen, Chairman, President, and CEO of Adobe Systems Inc. who has been a Pfizer director since 2013 and is the lead independent director.

Suzanne Nora Johnson, retired Vice-Chair of the Goldman Sachs group since 2007, a director of *inter alia* Visa Inc and a director of Pfizer since 2007, chairing the audit committee.

James Quincy, Chairman and CEO of The Coca-Cola Company and a Pfizer director since 2020, sitting on the compensation committee and science and technology committees.

Top Management (similarly, only selected members are discussed)

The members of the executive leadership team are also vastly experienced and have international experience in managing businesses of other multinationals.

The executive leaders of Pfizer are:

Frank D'Amelio, Chief financial officer and Executive vice president of global supply and business operations. D'Amelio led the acquisition and integration of Medivation Inc, Anacor pharmaceuticals inc, and Wyeth pharmaceuticals as well as the sale of Pfizer's nutrition business to Nestle. Previously he led Lucent Technologies (from 2001 to 2006) when he helped the company through one of its most challenging periods in the telecoms industry's history and returned the company to profitability. He was ranked among America's top CFOs for the past four years and is a key resource which the board relies upon.

Michael Dolsten, Chief scientific officer and President of Worldwide Research, Development, and Medical of the company. Dolsten focuses on advancing the company's scientific leadership in small molecule medicines, biotherapeutics, gene therapies, and vaccines. He joined the company in 2009 and was president of Wyeth Research, where he led scientists involved in all R&D/medical activities across the US, Europe, and Asia. Before this, he spent five years as executive vice president and was the head of worldwide research for Boehringer Ingelheim.

Lydia Fonseca, executive vice president, Chief Digital and Technology officer responsible for developing and implementing an enterprise-wide digital strategy. She leads all digital data and technology solutions across

[30] https://www.pfizer.com/people/leadership/board-of-directors

the company and spearheads programs and initiatives to support Pfizer's purpose of delivering breakthroughs that change patients' lives by applying digital capabilities and products. This includes improving operational processes to automation and robotics and delivering powerful insights with advanced data and analytics for better decision-making.

Angela Hwang, Group President of Pfizer Biopharmaceuticals group. She is a member of the executive team and Group President of the Pfizer by Biopharmaceuticals group, which comprises 80% of Pfizer's revenues. Her organization (of 26,000) colleagues is responsible for bringing over 600 innovative medicines and products to patients and in 2019 more than 434 million people benefited from a Pfizer Biopharma medicine or vaccine to improve their health and, in some cases, save their lives. Pfizer Biopharma generated around $40 billion in 2019 revenues.

2 Country/Regions Analysis Tables

United States

Market Data	2014	2015	2016	2017	2018	2019	CAGR
Prescription drug sales (USD	297.70	324.51	332.00	333.40	341.00	349.87	3.3
Patented drug sales (USD bn)	230.81	254.32	259.81	259.62	270.91	281.69	4.1
Generic drug sales (USD bn)	66.89	70.19	72.19	73.78	70.09	68.17	0.4
Over-the-counter medicine sales	18.64	19.10	19.73	20.12	20.56	20.90	2.3
Total Pharmaceutical Market (USD	316.34	343.61	351.73	353.52	361.56	370.77	3.2
Per capita (USD)	992.7	1070.8	1088.9	1087.5	1105.4	1126.7	2.6
Pharmaceutical Trade							CAGR
Imports (USD mn)	69214.9	81967.3	88468.2	92099.0	95114.8	97535.2	7.1
Growth rate (%)	15.8	18.4	7.9	4.1	3.3	2.5	-
Exports (USD mn)	40546.6	43715.3	43073.6	41961.3	42526.4	42970.3	1.2
Growth rate (%)	12.1	7.8	-1.5	-2.6	1.4	1.0	-
Economic Data							CAGR
GDP (USD bn)	17521.70	18219.30	18707.20	19485.40	20500.60	21432.80	4.1
Real growth (%)	2.5	2.9	1.6	2.2	2.9	2.2	-
Per capita (USD)	52671.0	54605.0	56403.0	57545.0	59570.0	62299.0	3.4
Health Expenditure (USD bn)	2980.27	3154.36	3289.58	3434.38	3598.00	3742.47	4.7
Per capita (USD)	9352.1	9830.4	10183.9	10564.6	10999.8	11373.0	4.0
% of GDP	17.0	17.3	17.6	17.6	17.6	17.5	0.5
Public expenditure as % of total	51.2	51.3	50.9	50.8	50.5	50.4	-
Exchange rate, national currency	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Demographic Data							CAGR
Population (mn)	318.7	320.9	323.0	325.1	327.1	329.1	0.6
Growth rate (%)	0.7	0.7	0.7	0.6	0.6	0.6	-
% aged 65+	14.3	14.6	15.0	15.4	15.8	16.2	-
Live Births (000s)	3918.0	3899.7	3894.1	3899.2	3912.4	3932.5	0.1
Per 000 population	12.3	12.2	12.1	12.0	12.0	12.0	-0.5
Deaths (000s)	2639.5	2689.9	2743.6	2799.0	2854.6	2908.9	2.0
Per 000 population	8.3	8.4	8.5	8.6	8.7	8.8	1.2
Infant mortality/000 live births	5.9	5.9	5.8	5.8	5.8	5.7	-0.7
Male life expectancy at birth	76.5	76.5	76.4	76.4	76.3	76.3	-0.1
Female life expectancy at birth	81.3	81.4	81.4	81.4	81.4	81.4	0.0
Healthcare Data							CAGR
Hospitals	5627	5564	5534	5497	5453	5408	-0.8
Public	1216	1195	1165	1148	1129	1111	-1.8
Private	4411	4369	4369	4349	4324	4297	-0.5
Beds	902202	897961	894574	888738	882455	876180	-0.6
Per 000 population	2.83	2.80	2.77	2.73	2.70	2.66	-1.2
Inpatient admissions (000s)	34878.89	35061.29	35158.93	34884.30	34635.33	34481.27	-0.2
Per 000 population	0.11	0.11	0.11	0.11	0.11	0.10	-0.9
Average length of stay (days)	6.0	6.0	5.9	5.9	5.9	5.9	-0.3
Surgical procedures (000s)	51448.9	51561.1	51673.5	51786.1	51899.0	52012.2	0.2
Outpatient visits (000s)	1160296.3	1264860.8	1280275.0	1286613.8	1307303.1	1333409.5	2.8
Per 000 population	3.64	3.94	3.96	3.96	4.00	4.05	2.2
Physicians	864719	870900	880380	895286	909825	921270	1.3
Per 000 population	2.71	2.71	2.73	2.75	2.78	2.80	0.6
Nurses	2687310	2745910	2857180	2884467	2937353	2995776	2.2
Per 000 population	8.43	8.56	8.85	8.87	8.98	9.10	1.5
Dentists	703163	719382	728721	741994	755840	770214	1.8
Per 000 population	2.21	2.24	2.26	2.28	2.31	2.34	1.2
Pharmacists	290780	295620	305510	312053	318537	325154	2.3
Per 000 population	0.91	0.92	0.95	0.96	0.97	0.99	1.6

China

Market Data	2014	2015	2016	2017	2018	2019	CAGR
Prescription drug sales (USD	80.44	90.69	92.50	103.88	116.16	122.57	8.8
Patented drug sales (USD bn)	20.30	23.09	23.86	27.16	30.77	32.89	10.1
Generic drug sales (USD bn)	60.14	67.60	68.64	76.72	85.39	89.67	8.3
Over-the-counter medicine sales	14.50	15.84	15.65	17.00	18.37	18.71	5.2
Total Pharmaceutical Market (USD	94.94	106.53	108.14	120.88	134.53	141.28	8.3
Per capita (USD)	67.8	75.7	76.5	85.1	94.2	98.5	7.8
Pharmaceutical Trade							**CAGR**
Imports (USD mn)	17113.4	18454.3	20002.4	24472.5	27234.9	28601.3	10.8
Growth rate (%)	18.3	7.8	8.4	22.4	11.3	5.0	-
Exports (USD mn)	3566.0	3825.6	4018.4	4240.6	4912.4	5535.3	9.2
Growth rate (%)	8.9	7.3	5.0	5.5	15.8	12.7	-
Economic Data							**CAGR**
GDP (USD bn)	10477.70	10999.40	11331.20	12025.60	13404.80	13920.00	5.8
Real growth (%)	7.3	6.9	6.7	6.9	6.6	6.1	-
Per capita (USD)	7486.0	7818.0	8013.0	8462.0	9389.0	9708.0	5.3
Health Expenditure (USD bn)	553.21	606.66	628.29	684.71	776.76	835.96	8.6
Per capita (USD)	395.3	431.2	444.3	481.8	544.1	583.0	8.1
% of GDP	5.3	5.5	5.5	5.7	5.8	5.9	2.3
Public expenditure as % of total	62.3	64.3	62.7	62.9	62.6	62.1	-
Exchange rate, national currency	6.2	6.3	6.7	6.8	6.6	7.0	2.4
Demographic Data							**CAGR**
Population (mn)	1399.5	1406.9	1414.1	1421.0	1427.7	1433.8	0.5
Growth rate (%)	0.5	0.5	0.5	0.5	0.5	0.4	-
% aged 65+	9.0	9.3	9.8	10.3	10.9	11.5	-
Live Births (000s)	17555.1	17451.4	17290.1	17077.8	16824.4	16539.2	-1.2
Per 000 population	12.5	12.4	12.2	12.0	11.8	11.5	-1.7
Deaths (000s)	9790.8	9870.6	9969.6	10095.0	10251.6	10440.7	1.3
Per 000 population	7.0	7.0	7.1	7.1	7.2	7.3	0.8
Infant mortality/000 live births	11.3	10.7	10.3	9.9	9.6	9.3	-3.8
Male life expectancy at birth	73.5	73.8	74.1	74.3	74.5	74.8	0.4
Female life expectancy at birth	78.0	78.3	78.6	78.8	79.1	79.2	0.3
Healthcare Data							**CAGR**
Hospitals	25859	27586	29139	31055	32929	35408	6.5
Public	13526	13351	12919	12487	12240	11990	-2.4
Private	12333	14235	16220	18568	20689	23418	13.7
Beds	4961200	5330600	5688900	6120500	6611413	7115519	7.5
Per 000 population	3.55	3.79	4.02	4.31	4.63	4.96	7.0
Inpatient admissions (000s)	184300.00	189520.00	204490.00	219430.00	233116.00	247193.00	6.0
Per 000 population	0.13	0.13	0.14	0.15	0.16	0.17	5.5
Average length of stay (days)	8.9	8.9	8.8	8.6	8.0	8.0	-2.1
Surgical procedures (000s)	43829.2	45557.0	50822.0	55957.0	60815.0	66367.0	8.7
Outpatient visits (000s)	7601870.0	7699250.0	7931700.0	8183110.0	8470001.0	8722263.0	2.8
Per 000 population	5.43	5.47	5.61	5.76	5.93	6.08	2.3
Physicians	2374917	2508408	2651398	2828999	2991740	3157193	5.9
Per 000 population	1.70	1.78	1.88	1.99	2.10	2.20	5.3
Nurses	3004144	3241469	3507166	3804021	4138298	4480017	8.3
Per 000 population	2.15	2.30	2.48	2.68	2.90	3.12	7.8
Dentists	139945	140684	141404	142102	142850	143594	0.5
Per 000 population	0.10	0.10	0.10	0.10	0.10	0.10	0.0
Pharmacists	409595	423294	439246	452968	469809	486250	3.5
Per 000 population	0.29	0.30	0.31	0.32	0.33	0.34	3.0

Japan

Market Data	2014	2015	2016	2017	2018	2019	CAGR
Prescription drug sales (USD	94.28	87.57	97.66	96.68	100.53	103.19	1.8
Patented drug sales (USD bn)	82.73	76.30	84.32	82.73	85.32	86.83	1.0
Generic drug sales (USD bn)	11.55	11.26	13.34	13.95	15.21	16.36	7.2
Over-the-counter medicine sales	6.32	5.63	6.39	6.32	6.54	6.70	1.2
Total Pharmaceutical Market (USD	100.60	93.20	104.04	103.00	107.07	109.89	1.8
Per capita (USD)	784.9	728.2	814.3	807.8	841.7	866.2	2.0
Pharmaceutical Trade							**CAGR**
Imports (USD mn)	18970.6	22306.7	23471.0	21471.0	24468.8	25113.1	5.8
Growth rate (%)	-4.7	17.6	5.2	-8.5	14.0	2.6	-
Exports (USD mn)	2582.1	3040.1	3628.0	4113.6	5068.7	5778.5	17.5
Growth rate (%)	-8.6	17.7	19.3	13.4	23.2	14.0	-
Economic Data							**CAGR**
GDP (USD bn)	4850.40	4389.50	4926.70	4859.80	4970.10	5046.90	0.8
Real growth (%)	0.4	1.2	0.6	1.9	0.8	0.5	-
Per capita (USD)	37843.0	34296.0	38560.0	38115.0	39072.0	39783.0	1.0
Health Expenditure (USD bn)	525.65	477.88	540.76	540.05	561.53	577.33	1.9
Per capita (USD)	4101.2	3733.8	4232.5	4235.6	4414.5	4550.9	2.1
% of GDP	10.8	10.9	11.0	11.1	11.3	11.3	0.9
Public expenditure as % of total	84.1	84.1	83.6	83.7	83.6	83.6	-
Exchange rate, national currency	105.9	121.0	108.8	112.2	110.4	110.0	0.8
Demographic Data							**CAGR**
Population (mn)	128.2	128.0	127.8	127.5	127.2	126.9	-0.2
Growth rate (%)	-0.1	-0.1	-0.2	-0.2	-0.2	-0.3	-
% aged 65+	25.4	26.0	26.6	27.1	27.6	28.0	-
Live Births (000s)	1041.6	1018.3	993.7	969.4	946.6	926.3	-2.3
Per 000 population	8.1	8.0	7.8	7.6	7.4	7.3	-2.1
Deaths (000s)	1280.2	1295.0	1309.4	1324.7	1342.0	1361.4	1.2
Per 000 population	10.0	10.1	10.3	10.4	10.6	10.7	1.4
Infant mortality/000 live births	2.0	2.0	1.9	1.8	1.7	1.7	-3.2
Male life expectancy at birth	80.4	80.7	80.9	81.1	81.3	81.5	0.3
Female life expectancy at birth	86.8	87.0	87.2	87.3	87.5	87.7	0.2
Healthcare Data							**CAGR**
Hospitals	8712	8652	8442	8384	8350	8320	-0.9
Public	1617	1598	1593	1575	1562	1550	-0.8
Private	7095	7054	6849	6809	6788	6770	-0.9
Beds	1568261	1560060	1561005	1552842	1547809	1543408	-0.3
Per 000 population	12.24	12.19	12.22	12.18	12.17	12.17	-0.1
Inpatient admissions (000s)	15406.82	15583.53	16049.84	16233.93	16468.00	16716.00	1.6
Per 000 population	0.12	0.12	0.13	0.13	0.13	0.13	1.9
Average length of stay (days)	16.8	16.5	16.2	15.9	16.0	16.0	-1.0
Surgical procedures (000s)	5135.6	5194.5	5350.0	5411.3	5489.0	5571.0	1.6
Outpatient visits (000s)	2207712.0	2216348.1	2225018.0	2233721.8	2235849.0	2236657.0	0.3
Per 000 population	17.22	17.32	17.42	17.52	17.58	17.63	0.5
Physicians	311205	316199	304759	309650	310943	311508	0.0
Per 000 population	2.43	2.47	2.39	2.43	2.44	2.46	0.2
Nurses	1460888	1495408	1149397	1176557	1135477	1082999	-5.8
Per 000 population	11.40	11.68	9.00	9.23	8.93	8.54	-5.6
Dentists	103972	105080	101551	102633	102650	102452	-0.3
Per 000 population	0.81	0.82	0.79	0.80	0.81	0.81	-0.1
Pharmacists	288151	294855	301323	308333	314324	320190	2.1
Per 000 population	2.25	2.30	2.36	2.42	2.47	2.52	2.3

Americas: Pharmaceutical sales, USDbn

Rank	Country	2014	2015	2016	2017	2018	2019	CAGR (%)
1	United States	316.34	343.61	351.73	353.52	361.56	370.77	3.2
2	Brazil	26.06	19.78	20.22	24.08	22.69	23.34	-2.2
3	Canada	21.99	20.33	20.20	21.77	22.56	22.42	0.4
4	Mexico	12.96	11.17	9.80	9.97	10.19	10.52	-4.1
5	Colombia	5.04	4.01	4.03	4.54	5.01	4.94	-0.4
6	Chile	3.47	3.34	3.52	3.97	4.35	4.32	4.5
7	Argentina	4.44	4.99	4.74	5.80	4.58	4.01	-2.0
8	Peru	1.10	1.22	1.18	1.20	1.33	1.40	4.8
9	Cuba	1.43	1.51	1.60	1.72	1.84	0.30	-26.7
10	Venezuela	8.11	14.10	0.21	0.03	0.00	-	-

Americas: Nominal GDP, USDbn

Rank	Country	2014	2015	2016	2017	2018	2019	CAGR (%)
1	United States	17521.7	18219.3	18707.2	19485.4	20500.6	21432.8	4.1
2	Brazil	2454.9	1799.9	1797.1	2053.1	1867.8	1830.1	-5.7
3	Canada	1805.9	1556.7	1530.1	1649.7	1711.9	1674.6	-1.5
4	Mexico	1312.8	1168.9	1076.7	1158.5	1224.4	1258.1	-0.8
5	Colombia	378.3	291.1	282.5	314.4	346.6	317.5	-3.4
6	Argentina	563.7	460.5	518.1	571.6	386.7	314.3	-11.0
7	Chile	260.5	243.9	250.3	277.7	298.2	289.2	2.1
8	Peru	203.1	191.5	194.5	214.2	225.2	236.2	3.1
9	Venezuela	481.7	1277.3	22.4	9.4	14.2	15.0	-50.0
10	Cuba	80.7	87.1	91.4	96.9	100.0	8.1	-36.9

Americas: Exchange rate, national currency per USD

Rank	Country	2014	2015	2016	2017	2018	2019
1	United States	1.0	1.0	1.0	1.0	1.0	1.0
2	Canada	1.1	1.3	1.3	1.3	1.3	1.4
3	Peru	2.8	3.2	3.4	3.3	3.3	3.3
4	Brazil	2.4	3.3	3.5	3.2	3.7	3.9
5	Cuba	1.0	1.0	1.0	1.0	1.0	6.5
6	Mexico	13.3	15.9	18.7	18.9	19.2	19.4
7	Argentina	8.1	9.3	14.8	16.6	28.1	50.1
8	Chile	570.4	654.1	677.0	648.8	641.3	696.0
9	Colombia	2002.6	2745.8	3053.4	2951.8	2957.3	3275.6
10	Venezuela	0.0	0.0	0.0	0.2	157.3	16197.6

Americas: Population, mn

Rank	Country	2014	2015	2016	2017	2018	2019	CAGR (%)
1	United States	318.7	320.9	323.0	325.1	327.1	329.1	0.6
2	Brazil	202.8	204.5	206.2	207.8	209.5	211.1	0.8
3	Mexico	120.4	121.9	123.3	124.8	126.2	127.6	1.2
4	Colombia	47.0	47.5	48.2	48.9	49.7	50.3	1.4
5	Argentina	42.6	43.1	43.5	43.9	44.4	44.8	1.0
6	Canada	35.7	36.0	36.4	36.7	37.1	37.4	1.0
7	Peru	30.1	30.5	30.9	31.4	32.0	32.5	1.6
8	Venezuela	30.0	30.1	29.9	29.4	28.9	28.5	-1.0
9	Chile	17.8	18.0	18.2	18.5	18.7	19.0	1.3
10	Cuba	11.3	11.3	11.3	11.3	11.3	11.3	0.0

Asia: Pharmaceutical sales, USDbn

Rank	Country	2014	2015	2016	2017	2018	2019	CAGR (%)
1	China	94.94	106.53	108.14	120.88	134.53	141.28	8.3
2	Japan	100.60	93.20	104.04	103.00	107.07	109.89	1.8
3	India	15.11	16.41	17.51	19.41	20.49	22.07	7.9
4	South Korea	15.59	15.00	16.20	17.06	17.92	17.05	1.8
5	Australia	12.21	10.17	11.11	12.33	12.01	11.80	-0.7
6	Indonesia	5.93	5.80	6.43	7.04	7.32	8.18	6.6
7	Vietnam	3.50	4.22	4.72	5.29	5.92	6.64	13.7
8	Taiwan	5.52	5.48	5.62	6.19	6.47	6.42	3.0
9	Thailand	4.48	4.47	4.56	5.00	5.47	5.94	5.8
10	Philippines	3.28	3.33	3.38	3.44	3.50	3.38	0.6
11	Bangladesh	1.97	2.21	2.44	2.67	2.81	3.08	9.3
12	Pakistan	2.29	2.46	2.63	2.86	2.77	2.36	0.6
13	Malaysia	2.29	2.11	2.07	2.09	2.33	2.33	0.3
14	Hong Kong	1.08	1.16	1.24	1.35	1.46	1.59	8.0
15	Singapore	0.82	0.80	0.84	0.88	0.95	0.98	3.5
16	New Zealand	0.91	0.77	0.77	0.82	0.83	0.80	-2.5

Asia: Nominal GDP, USDbn

Rank	Country	2014	2015	2016	2017	2018	2019	CAGR (%)
1	China	10477.7	10999.4	11331.2	12025.6	13404.8	13920.0	5.8
2	Japan	4850.4	4389.5	4926.7	4859.8	4970.1	5046.9	0.8
3	India	2037.3	2257.2	2286.2	2758.2	2779.7	2954.4	7.7
4	South Korea	1484.2	1465.5	1499.7	1623.4	1720.9	1655.3	2.2
5	Australia	1322.4	1196.7	1227.2	1411.9	1338.0	1350.2	0.4
6	Indonesia	888.3	861.9	932.4	1014.8	1041.8	1122.7	4.8
7	Taiwan	530.5	525.6	531.4	574.9	580.2	584.4	2.0
8	Thailand	407.4	401.3	412.5	455.4	504.9	547.9	6.1
9	Hong Kong	291.4	309.4	320.8	341.7	363.4	369.4	4.9
10	Philippines	284.6	292.6	304.9	313.4	335.0	367.7	5.3
11	Singapore	301.0	298.8	303.7	349.8	360.4	365.0	3.9
12	Malaysia	326.9	296.3	296.5	314.5	354.4	363.0	2.1
13	Bangladesh	173.0	195.2	221.5	248.8	268.8	300.1	11.6
14	Pakistan	236.0	255.2	275.6	305.1	301.0	266.5	2.5
15	Vietnam	185.8	191.3	201.3	220.5	240.5	260.8	7.0
16	New Zealand	187.4	171.4	184.0	200.3	196.8	188.5	0.1

Asia: Exchange rate, national currency per USD

Rank	Country	2014	2015	2016	2017	2018	2019
1	Singapore	1.3	1.4	1.4	1.4	1.4	1.4
2	Australia	1.1	1.3	1.4	1.3	1.3	1.5
3	New Zealand	1.2	1.4	1.4	1.4	1.5	1.5
4	Malaysia	3.3	3.9	4.2	4.3	4.0	4.2
5	China	6.2	6.3	6.7	6.8	6.6	7.0
6	Hong Kong	7.8	7.8	7.8	7.8	7.8	7.8
7	Taiwan	30.4	31.9	32.3	30.4	30.2	31.0
8	Thailand	32.5	34.3	35.3	33.9	32.3	31.0
9	Philippines	44.4	45.5	47.5	50.4	52.7	52.1
10	India	61.0	64.2	67.2	65.1	68.4	70.5
11	Bangladesh	77.6	78.0	78.4	81.0	83.7	84.5
12	Japan	105.9	121.0	108.8	112.2	110.4	110.0
13	Pakistan	101.0	102.8	104.7	105.4	120.0	152.0
14	South Korea	1053.0	1131.3	1160.8	1130.8	1100.3	1170.0
15	Indonesia	11867.9	13390.3	13306.4	13381.3	14242.0	14350.0
16	Vietnam	21198.9	21919.0	22366.1	22715.5	23020.2	23300.0

Asia: Population, mn

Rank	Country	2014	2015	2016	2017	2018	2019	CAGR (%)
1	China	1399.5	1406.9	1414.1	1421.0	1427.7	1433.8	0.5
2	India	1295.6	1310.2	1324.5	1338.7	1352.6	1366.4	1.1
3	Indonesia	255.1	258.4	261.6	264.7	267.7	270.6	1.2
4	Pakistan	195.3	199.4	203.6	207.9	212.2	216.6	2.1
5	Bangladesh	154.5	156.3	158.0	159.7	161.4	163.1	1.1
6	Japan	128.2	128.0	127.8	127.5	127.2	126.9	-0.2
7	Philippines	100.5	102.1	103.7	105.2	106.7	108.1	1.5
8	Vietnam	91.7	92.7	93.6	94.6	95.6	96.5	1.0
9	Thailand	68.4	68.7	69.0	69.2	69.4	69.6	0.3
10	South Korea	50.6	50.8	51.0	51.1	51.2	51.2	0.2
11	Malaysia	29.9	30.3	30.7	31.1	31.5	32.0	1.4
12	Australia	23.6	23.9	24.3	24.6	24.9	25.2	1.3
13	Taiwan	23.5	23.6	23.6	23.7	23.7	23.8	0.2
14	Hong Kong	7.1	7.2	7.2	7.3	7.4	7.4	0.9
15	Singapore	5.5	5.6	5.7	5.7	5.8	5.8	1.0
16	New Zealand	4.6	4.6	4.7	4.7	4.7	4.8	0.9

Western Europe: Pharmaceutical sales, USDbn

Rank	Country	2014	2015	2016	2017	2018	2019	CAGR (%)
1	Germany	68.86	60.32	62.12	65.96	70.49	69.61	0.2
2	United Kingdom	50.14	49.74	45.33	44.24	46.81	45.43	-2.0
3	France	45.59	39.18	39.52	40.61	43.05	41.06	-2.1
4	Italy	35.33	32.08	32.52	33.52	34.06	33.31	-1.2
5	Spain	32.78	27.96	28.44	29.55	31.35	29.94	-1.8
6	Switzerland	7.71	7.64	7.69	7.89	8.08	8.27	1.4
7	Austria	8.16	6.89	7.04	7.53	8.11	8.08	-0.2
8	Netherlands	8.22	7.13	7.29	7.63	8.14	8.03	-0.4
9	Greece	7.07	5.77	6.00	6.10	6.90	6.62	-1.3
10	Belgium	5.37	4.76	4.82	5.09	5.49	5.33	-0.2
11	Sweden	5.50	4.81	4.93	5.08	5.09	4.82	-2.6
12	Portugal	4.55	3.96	4.06	4.18	4.41	4.30	-1.1
13	Denmark	3.81	3.26	3.28	3.48	3.71	3.66	-0.8
14	Finland	3.76	3.28	3.39	3.48	3.72	3.59	-0.9
15	Norway	3.35	2.83	2.95	3.22	3.33	3.24	-0.7
16	Ireland	3.16	2.71	2.78	2.88	3.05	2.92	-1.6

Western Europe: Nominal GDP, USDbn

Rank	Country	2014	2015	2016	2017	2018	2019	CAGR (%)
1	Germany	3560.3	3313.6	3323.1	3934.4	3893.9	3755.3	1.1
2	United Kingdom	3065.6	2928.9	2694.1	2667.4	2854.4	2832.7	-1.6
3	France	2852.2	2438.2	2471.8	2593.4	2776.6	2689.9	-1.2
4	Italy	2151.7	1832.3	1869.6	1951.9	2073.2	1966.2	-1.8
5	Spain	1376.9	1199.1	1237.8	1317.9	1425.7	1382.8	0.1
6	Netherlands	891.0	765.3	783.7	832.9	902.4	885.6	-0.1
7	Switzerland	709.3	679.2	668.8	678.6	706.6	718.9	0.3
8	Sweden	573.7	498.0	514.5	539.1	552.3	531.7	-1.5
9	Belgium	530.8	455.8	469.8	496.1	531.7	517.0	-0.5
10	Austria	441.9	382.1	390.9	417.7	456.2	446.6	0.2
11	Norway	499.3	386.7	371.3	399.5	434.9	427.3	-3.1
12	Ireland	258.5	291.5	300.6	335.8	382.4	365.7	7.2
13	Denmark	352.6	302.8	312.1	330.9	351.3	349.7	-0.2
14	Finland	272.6	232.9	239.1	253.0	275.6	261.0	-0.9
15	Portugal	229.6	199.1	204.7	219.9	237.9	231.6	0.2
16	Greece	237.0	196.6	195.3	203.6	218.0	208.7	-2.5

Western Europe: Exchange rate, national currency per USD

Rank	Country	2014	2015	2016	2017	2018	2019
1	United Kingdom	0.6	0.7	0.7	0.8	0.8	0.8
2	Austria	0.8	0.9	0.9	0.9	0.9	0.9
3	Belgium	0.8	0.9	0.9	0.9	0.9	0.9
4	Finland	0.8	0.9	0.9	0.9	0.9	0.9
5	France	0.8	0.9	0.9	0.9	0.9	0.9
6	Germany	0.8	0.9	0.9	0.9	0.9	0.9
7	Greece	0.8	0.9	0.9	0.9	0.9	0.9
8	Ireland	0.8	0.9	0.9	0.9	0.9	0.9
9	Italy	0.8	0.9	0.9	0.9	0.9	0.9
10	Netherlands	0.8	0.9	0.9	0.9	0.9	0.9
11	Portugal	0.8	0.9	0.9	0.9	0.9	0.9
12	Spain	0.8	0.9	0.9	0.9	0.9	0.9
13	Switzerland	0.9	1.0	1.0	1.0	1.0	1.0
14	Denmark	5.6	6.7	6.7	6.6	6.3	6.5
15	Norway	6.3	8.1	8.4	8.3	8.1	8.7
16	Sweden	6.9	8.4	8.6	8.5	8.7	9.4

Western Europe: Population, mn

Rank	Country	2014	2015	2016	2017	2018	2019	CAGR (%)
1	Germany	81.5	81.8	82.2	82.7	83.1	83.5	0.5
2	United Kingdom	65.4	65.9	66.3	66.7	67.1	67.5	0.6
3	France	64.2	64.5	64.7	64.8	65.0	65.1	0.3
4	Italy	60.4	60.6	60.7	60.7	60.6	60.6	0.0
5	Spain	46.8	46.7	46.6	46.7	46.7	46.7	0.0
6	Netherlands	16.9	16.9	17.0	17.0	17.1	17.1	0.2
7	Belgium	11.2	11.3	11.4	11.4	11.5	11.5	0.6
8	Greece	10.7	10.7	10.6	10.6	10.5	10.5	-0.4
9	Portugal	10.4	10.4	10.3	10.3	10.3	10.2	-0.4
10	Sweden	9.7	9.8	9.8	9.9	10.0	10.0	0.7
11	Austria	8.6	8.7	8.8	8.8	8.9	9.0	0.8
12	Switzerland	8.2	8.3	8.4	8.5	8.5	8.6	0.9
13	Denmark	5.7	5.7	5.7	5.7	5.8	5.8	0.4
14	Finland	5.5	5.5	5.5	5.5	5.5	5.5	0.3
15	Norway	5.1	5.2	5.3	5.3	5.3	5.4	0.9
16	Ireland	4.6	4.7	4.7	4.8	4.8	4.9	1.1