

Purdue Pharma – Analysis & Strategic Plan

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Introduction

This paper provides in depth analyses of the external and internal environments as well as the pharmaceutical industry in which Purdue Pharma operates. Purdue Pharma is best known for OxyContin which kickstarted the opioid crisis in the US. Purdue Pharma develops, manufactures, and markets pain medication in the form of opioids as well as consumer health products such as laxatives, antiseptics, and dietary supplements. To improve the profitability of the company, several strategies have been recommended in the latter half of the paper.

Company History

Purdue Pharma was founded in by 1892 by John Purdue Gray and George Frederick Bingham (“Purdue Pharma L.P,” 2022). In 1952 the company was purchased by Raymond and Mortimer Sackler with their other brother Arthur later “[holding] a one-third option in the company” (“Purdue Pharma L.P,” 2022). Upon Sackler family ownership, Purdue Pharma began manufacturing pain medication such as hydromorphone, oxycodone, fentanyl, codeine, and hydrocodone (“Purdue Pharma L.P,” 2022). In 1996 the company released OxyContin whose “sole active ingredient is oxycodone, a chemical cousin of heroin which is up to twice as powerful as morphine” (Keefe, 2017). Soon after the release of OxyContin, Purdue Pharma received a warning from a pharmacy benefit manager which would later manifest as a national epidemic – the high potential of drug abuse (“Purdue Pharma L.P,” 2022). Although the drug was initially “hailed as a medical breakthrough,” nearly 500,000 people have died from opioid overdoses since 1999, an epidemic precipitated by “a shift in the culture of prescribing [which was] engineered by Purdue” (Keefe, 2017) and their “misbranding and reckless marketing” of OxyContin (Hampton, 2021).

In September 2019, Purdue Pharma filed for bankruptcy in an attempt to “protect itself from 2,600 lawsuits” from families of opioid overdose victims (Hampton, 2021). In November 2020, Purdue Pharma pleaded guilty to “conspiracies to defraud the United States and violate the anti-kickback statute” (“Opioid manufacturer,” 2020). As a result, Purdue Pharma has been ordered to pay a substantial federal settlement of nearly \$6.5 billion with an additional \$225 million being paid by the Sackler family in a separate civil settlement (DOJ Office of Public Affairs, 2020).

While the company is currently going through legal proceedings to determine if Purdue Pharma will reform as Kinoa Pharma, the company continues to produce prescription opioids, opioid reversal medication, laxatives, antiseptics, and dietary supplements. Should Purdue Pharma reemerge as Kinoa Pharma, their primary owner would be the National Opioid Abatement Trust (NOAT).

External Analysis

The following section provides an external analysis of Purdue Pharma and the pharmaceutical industry using a PESTEL analysis, Porter’s Five Forces, and the structure-conduct-performance paradigm.

PESTEL

Political factors that impact the pharmaceutical industry are primarily regulatory compliances. The pharmaceutical industry is highly regulated by the Food and Drug Administration (FDA). Drugs are reviewed prior to approval as well as post approval to not only regulate pricing, but also quality. Although companies can still develop and sell drugs that are not FDA approved, they must inform consumers of being non-FDA approved which might

influence consumers to purchase from a company with FDA approved products instead. These regulations also create a high barrier to entry for new pharmaceutical companies.

Economic factors that impact the pharmaceutical industry are largely the increase in healthcare spending. In 2021, “US national healthcare expenditure reached \$4.3 trillion,” a number that’s expected to increase to “\$6.2 trillion by 2028” (“US healthcare industry,” 2023). This increase in healthcare spending includes an increase in spending on medication which creates more revenue for pharmaceutical companies. This increase in healthcare spending is likely a result of the social factors impacting this industry which are discussed below.

Social factors that impact the pharmaceutical industry are demographics and health trends. Around 55.7 million people living in the US are 65 or older, a number that has grown by 38% since 2010, as compared to a 2% increase in growth for those under 65 (Searing, 2023). The number of people over 65 is expected to grow even until 2040. This age group is primarily impacted by arthritis while many also suffer from some form of cancer, diabetes, obesity, and cognitive issues (Searing, 2023). As this age group continues to increase in number, the pharmaceutical industry will benefit from their increase in healthcare spending. In regard to health trends, almost 42% of adults in the US struggle with obesity as of 2020, a number that has only increased since 1980 (Laurence & Acosta, 2023). Adults with obesity “spend an average of \$1,861 more a year on medical costs” than adults who are not obese (Laurence & Acosta, 2023). Childhood obesity has seen an even more severe increase as the number of US children that are obese has more than tripled over the past three decades (Laurence & Acosta, 2023). Obesity often causes type 2 diabetes and heart disease, health challenges that only increase a person’s healthcare spending and their spending on medication specifically.

Technological factors that impact the pharmaceutical industry are telehealth and the use of robotics. Telehealth allows consumers to receive prescriptions and diagnoses from their home which increases access to treatment, therefore increasing an individual's healthcare spending which ultimately increases revenue for the pharmaceutical industry. Other technological factors include the use of robotics in manufacturing and drug development. According to the Robotic Industries Association, orders for robots from "North American life sciences companies increased by 69%" between 2019 and 2020 (Vara, 2022). Robots are primarily used by pharmaceutical companies to aid with "dispensing, sorting, kit assembly, light-machine tending, and packaging," and help increase the "speed of the manufacturing process [to] make it safer and efficient" while also decreasing the cost of wages paid (Vara, 2022).

Legal factors that impact the pharmaceutical industry are intellectual property laws that allow companies to patent their developments. The ability to patent drugs gives companies a competitive advantage as they're given exclusive rights for the development of their products.

Environmental factors that impact the pharmaceutical industry are environmental sustainability and climate change. The pharmaceutical industry is one that has a "large carbon footprint" and relies heavily on "natural resources for product development and production" (Barrell, 2022). In 2019, the pharmaceutical industry "produced 48.55 tons of carbon dioxide equivalent for every \$1m it generated" (Barrell, 2022). In regard to the climate, changes in climate "enhance[s] the spread of mosquito-borne diseases like malaria and Zika" and also increases the commonality of water-borne illnesses (Barrell, 2022). This increase in disease provides the industry with an opportunity to develop treatments that will increase the profitability of the industry.

Porter's Five Forces

Due to heavy regulations surrounding the development, approval, and marketing of drugs, threat of new entrants into the pharmaceutical industry is low. Substantial capital is required to invest in the research and manufacturing necessary to become a profitable company within the industry. This capital requirement and the challenges of gaining FDA approval makes it difficult for new companies to establish themselves. Suppliers within the pharmaceutical industry include producers of active pharmaceutical ingredients as well as suppliers of manufacturing equipment. Due to the large number of suppliers within the industry, supplier bargaining power is low. Buyers within the pharmaceutical industry include healthcare providers, insurance companies, and consumers as individuals. Their bargaining power is high due to the large volume of purchases they make as well as the existence of alternative treatments. The threat of substitutes is relatively low. Although there are alternatives of many drugs, the number of alternatives is low, and consumers often only have one or two options. The pharmaceutical industry is highly competitive as there are a few big players trying to gain market share while other mid to small size competitors look to compete as well. Competition is notably high in regard to the research and development of new drugs as well as a company's marketing tactics and pricing.

Structure-Conduct-Performance

The pharmaceutical industry is characterized by high barriers to entry and challenging regulatory processes. The market structure of the industry is an oligopoly due to these characteristics that give an advantage to large companies that already exist within the industry. In regard to market share, the top performing pharmaceutical companies in the US in 2023 are Johnson & Johnson, Eli Lilly and Co, Merck & Co Inc, and Pfizer (). As of the end of 2023 Q1,

the “top 10 Pharma companies in the US had a total market cap of \$2,060,644 million” (). These large sellers create the oligopolistic structure of the pharmaceutical industry and develop relatively heterogenous products that treat a wide variety of diseases and illnesses.

Due to the oligopolistic structure of the industry as well as the life-changing nature of many medications, demand for products within the pharmaceutical industry is inelastic as demand remains constant regardless of changes in the economy. Purdue Pharma is attempting to be more socially responsible by taking on public health initiatives that improve the opioid epidemic, as well as by being more transparent in their marketing of opioids. Should Purdue Pharma be reformed as Kinoa Pharma, they would be “tightly regulated” and “overseen by an independent board of managers” selected by Purdue Pharma’s creditors (Schott, 2021).

Despite the crisis that has resulted from the development of opioids, Purdue Pharma and mid-size competitors such as Mallinckrodt Pharmaceuticals continue to produce opioids as they are necessary to treat high levels of pain. Although Purdue Pharma reached “nearly \$24 billion in revenues between 2010 and 2020,” sales have “decreased every year in that time span, from \$3.1 billion in 2010 to \$1 billion in 2020” (Schott, 2021). This pattern reflects the company’s need for new strategies to increase profitability.

Internal Analysis

The following section provides an internal analysis of Purdue Pharma and their capabilities using a resource-based view, VRIO, and SWOT as well as providing a financial analysis and analysis of the company’s core competency.

Financial Analysis

Purdue Pharma is a private corporation that does not publish its financial statements. However, NOAT, who has ownership of Purdue Pharma, publishes its financials in their annual

reports. At the end of the 2022 calendar year, NOAT held around \$174 million in net assets as well as \$170 million in cash and cash equivalents (“Notice of filing,” 2022). In addition to Purdue Pharma, NOAT also benefits the creditors of Mallinckrodt Pharmaceuticals who entered into bankruptcy in the state of Delaware to “address their opioid liabilities” (“Notice of filing,” 2022). From June 2022 through December 2022, NOAT has paid opioid claims of almost \$8 million (“Notice of filing,” 2022). Purdue Pharma is expected to pay around \$6.5 billion which includes a criminal fine and criminal forfeiture (DOJ Office of Public Affairs, 2020).

Resource-Based View

Purdue Pharma’s tangible assets includes the facilities and land in which the company manufactures their drugs as well as the equipment and machinery used in manufacturing and research and development. Tangible assets of Purdue Pharma also include inventory of drugs and ingredients, as well as cash and any investments the company holds. Purdue Pharma’s intangible assets include their patents and intellectual property which gives them a competitive advantage within the industry. In addition to patents, Purdue Pharma has many of their brands trademarked such as SlowMag and OxyContin. Their intangible assets also include their public image and their expertise in navigating the complex regulations within the pharmaceutical industry. Purdue Pharma’s intangible assets also include human capital as well as the strong brand awareness that the company has created for many of its products.

Core Competence

Pain management is Purdue Pharma’s core competence as they have been a leader in the development of opioids for over 30 years. Purdue Pharma has established themselves as an expert in pain management as they deeply understand the needs of patients and healthcare providers. In turn, the company has built strong brand awareness as well a loyal customer base.

Despite their negative public image, the company continues to produce pain management medication as it is critical in treating chronic and acute pain. Purdue Pharma has been adaptive to public health changes as they attempt to right the wrongdoings of their past.

VRIO

Purdue Pharma develops valuable products as they provide people with pain relief as well as improvements in intestinal function and vitamin levels. Despite their value, Purdue Pharma's products are not rare as there are countless companies who develop pain management medication, antiseptics, and dietary supplements. The company's products are also highly imitable as any drug manufacturer could theoretically manufacture similar products, though not the exact same as Purdue Pharma does hold patents. Although Purdue Pharma has patents on many of their products, competitors could develop medication with the same effectiveness. Purdue Pharma's capabilities appear organized as they have been in operation for over 120 years and have manufactured their flagship product, OxyContin, for nearly 30 years. Even now as the company continues to undergo legal proceedings, Purdue Pharma is adaptable to organizational changes and remains highly organized. Despite having organized capabilities and valuable products, Purdue Pharma's products are missing the aspects of rarity and being inimitable.

SWOT

Purdue Pharma's strengths and weaknesses are well balanced. One strength of the company is that they are well established in the pharmaceutical industry and pain management market. Another strength is their intellectual property and the number of patents they hold. Purdue Pharma has patents on their pain management medication as well as their laxatives and antiseptics. Additionally, Purdue Pharma invests in research and development to develop new opioid overdose reversal medication. A weakness of Purdue Pharma is their narrow range of

products. Purdue Pharma has a relatively narrow range of products which leaves them vulnerable to changes in the market. Another weakness of Purdue Pharma is that in recent years they've faced intense legal proceedings that have left their reputation at an all-time low.

One opportunity for Purdue Pharma is that they currently only operate in the US. The company could globalize and develop medication that is needed by other markets. Another opportunity for the company is to develop non-addictive pain management medication. This would not only help them become more profitable, but it could also help their public image if they're able to shift from opioids to equally effective non-addictive medication. One threat that Purdue Pharma, and all pharmaceutical companies, faces are changes in industry regulations. Because companies in this industry are oftentimes dependent on the FDA and other regulatory systems, they are vulnerable to changes that can affect their operations or pricing. Another threat that the company faces is the development of alternative pain management treatment such as CBD or THC products, injections, and physical treatments like chiropractic.

Strategic Plan

In light of the analysis above, the following strategies are recommended to improve the profitability of Purdue Pharma.

Enter into an equity alliance with Express Scripts to deliver Purdue Pharma products to individual consumers with an investment of \$100 million and return on investment of 25% by 2030.

Express Scripts is a digital pharmacy that allows individual consumers to have their prescriptions mailed right to their door. Users also have 24/7 access to trained pharmacists that can discuss prescriptions, drug side effects, and drug interactions. Entering into an equity alliance with Express Scripts would allow Purdue Pharma to become privy to the processes that

Express Scripts utilizes to mail and manage prescriptions. Purdue Pharma can utilize these processes to begin selling and distributing their medications directly to individual consumers that have the appropriate prescriptions from their medical provider. This would open up a new channel for Purdue Pharma as they would be able to provide medication directly for the 1 in 4 Americans that are eligible to use Express Scripts services using their health benefits (“Express Scripts,” n.d.). Due to the increased access that people would have to medication, it would be wise of Purdue Pharma to implement additional processes to ensure that consumers requesting opioid medications have the appropriate prescription from a credible health provider.

Expand the company’s subsidiary Avrio Health by investing \$100 million in the production of vitamin D to achieve a return on investment of 15% per supplement by 2027.

Avrio Health is a subsidiary of Purdue Pharma that manufactures medication for wound care, digestive wellness, and magnesium-based products. SlowMag Mg by Avrio Health includes magnesium-based products for muscle and heart function, improved sleep, and muscle recovery. Between 10% and 20% of the global population are magnesium deficient and over one billion people worldwide have a vitamin D deficiency which makes for high demand of magnesium and vitamin D supplements (Boyers & Aungst, 2023). Having sufficient magnesium levels allows for better absorption of vitamin D, and taking too much vitamin D can lead to a deficiency in magnesium, which means that it's best to take both together (Boyers & Aungst, 2023). Because of the dependency these minerals have on one another, Avrio Health should manufacture a vitamin D supplement to offer complementary products. Offering both of these products in one place will increase profitability for Purdue Pharma as they experience an increase in sales of complementary supplements. As discussed in the PESTLE analysis, current health trends in the US regarding obesity and the aging population will create an increase in the need for

supplements such as magnesium which support cardiovascular health and subsequently increase the need for vitamin D.

Create a new division of the company to develop viscometers by 2025 that allows the company to insource viscosity measurements of its products to achieve a 5% increase in profitability.

Medications that come in liquid form must have their viscosity measured to ensure proper flow. Purdue Pharma products such as Nalmefene Hydrochloride Injection, Betadine, and Colace all require viscosity testing as they are liquid-based formulations. Viscosity testing is a process that is typically outsourced and completed by companies that develop viscometers. By the end of 2031, the viscometer market is expected to be worth over \$587 million (Future Market Insights, 2021). Not only can Purdue Pharma vertically integrate and insource viscosity testing of their own products, but this new division will lay the foundation for being able to offer viscosity testing as a service for other companies, increasing their profitability by saving costs and also bringing in revenue.

Enter the cannabis industry to develop non-addictive pain management treatment by investing up to \$100 million in research and development, with an expected return on investment of 30% by 2028.

Purdue Pharma's downfall has ultimately been their production and marketing tactics of highly addictive opioids. Although the company is now trying to take a more ethical approach to the marketing of opioids, they continue to produce highly addictive medication such as OxyContin and Butrans. While the effectiveness of cannabis on chronic and acute pain is still being researched, there have been a myriad of studies. One clinically significant study noted in an article from the National Library of Medicine found that two-thirds of "984 chronic pain patients...reported pain relief as the main benefit of marijuana use" (Bains & Mukhdomi, 2022).

Another significant study “showed a 64% reduction in opioid use amongst chronic pain patients who used medical marijuana” who “experience[d] fewer side effects and improved quality of life” as a result of reducing their opioid use (Bains & Mukhdomi, 2022). Additionally, the cannabis industry continues to grow, with the potential to reach \$72 billion in US sales by 2030 (Dorbian, 2022). A primary challenge of entering the marijuana industry would be the legal and geographical factors. Marijuana is still illegal at the federal level; therefore, Purdue Pharma would have to operate in a state where marijuana is legal. This strategy provides Purdue Pharma with an opportunity to shift into non-addictive pain management.

Enter into non-equity alliances with all the major cities in the US to supply opioid overdose reversal medication at cost, with a decrease in profitability of 5%.

Purdue Pharma’s public image took a major hit after they pleaded guilty to three felony charges. Part of the company’s mission moving forward is to take liability for their involvement in the opioid epidemic and right their wrongs. The company is now committed to providing opioid overdose reversal treatment and acting in a manner that considers public health interests. Forming alliances with cities in the US that have a population of over 500,000 will allow Purdue Pharma to fulfill their public health initiatives by supplying their opioid overdose reversal medication, Nalmefene Hydrochloride, at cost. Although selling this medication at cost will result in a decrease in profitability, Purdue Pharma will improve their corporate image and act on their social responsibility and public health promises. If Purdue Pharma does reemerge as Knoa Pharma, these non-equity alliances will create an opportunity for the company to rebrand themselves with a stronger and more positive perception from the public. Forming these alliances may also improve the company’s image in the mind of the FDA and help with FDA approval of future drugs.

Enter into a non-equity alliance with Eisai to study the impacts of long-term opioid use on memory loss and subsequently develop an educational program for consumers, achieving an increase in profitability of 10%.

Eisai is the producer of a newly FDA approved Alzheimer's treatment, Leqembi. As of 2022, around "6.5 million Americans aged 65 or older are living with dementia due to" Alzheimer's disease ("Eisai's approach," 2023). Data from Leqembi's clinical studies showed that it "could help patients maintain cognition, preserve activities of daily living and maintain functional ability for longer" ("Eisai's approach," 2023). Few studies have been done that determine the effects of long-term opioid use on memory loss or cognitive decline. One of the first studies completed found that "people with the highest cumulative use of prescription opioids" had just a "slightly higher risk" of developing dementia or Alzheimer's disease than people with "little to no use" (Dublin et al., 2016). Conducting a study with Eisai would allow Purdue Pharma to create an educational program for consumers based on their findings. This non-equity alliance may also have positive impacts on Purdue Pharma's public image as they take on another public health initiative with a different lens.

Acquire Mallinckrodt Pharmaceuticals by 2025 at a price of \$1 billion to achieve return on investment of 25%.

Mallinckrodt Pharmaceuticals is a producer of active pharmaceutical ingredients such as acetaminophen, paracetamol, controlled substances, and stearates. Mallinckrodt Pharmaceuticals has also faced similar repercussions as Purdue Pharma for their involvement in fueling the opioid crisis, and they are now owned by NOAT as well. Similar to Purdue Pharma, Mallinckrodt Pharmaceuticals is taking measures to act more ethically by being more socially responsible. The acquisition of Mallinckrodt Pharmaceuticals would diversify the company's product portfolio

into active ingredients. Purdue Pharma would gain the customer base of Mallinckrodt Pharmaceuticals and also take over operations of their number of products. Mallinckrodt Pharmaceuticals prioritizes quality, performance, supply continuity, and customer service, as well as diversity, equity, and inclusion. The core values of Mallinckrodt Pharmaceuticals align well with Purdue Pharma as both companies look to take more social responsibility. Since both Mallinckrodt Pharmaceuticals and Purdue Pharma are owned by NOAT, acquisition details would have to be discussed and finalized by their respective board of directors.

Conclusion

Purdue Pharma has been a leader in pain management and other pharmaceutical developments for over 30 years. Despite the company's recent shift towards social responsibility, Purdue Pharma's history of deceptive marketing and heavy fueling of the US opioid epidemic led to their bankruptcy and legal consequences. Should Purdue Pharma pursue the recommended strategies above, competitors of the company are likely to react by exploring ways to expand their current capabilities or diversify into new areas within pharmaceutical specifically as well as the umbrella industry of biotechnology. By implementing strategies that prioritize diversification and increasing profitability, Purdue Pharma can improve their public image, help develop a solution for the crisis they kickstarted, and move towards a more sustainable and responsible business model.

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