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Final Project Report

Organization: Johnson & Johnson (J&J)

Group 23

Name	Matriculation Number
Aryan Ganju	A0258469J
Loo Hui Lin	A0203151B
Shauryan Agrawal	A0265846N
Liong Yi Chen, Irwyn	A0258141J
Lin Wan Lei	A0258005L





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1 Introduction

1.1 Johnson & Johnson

J&J is a holding firm which ⁶conducts research and development, manufactures, markets, and sells various products ⁶in the healthcare and well-being sectors through its subsidiary companies. The Company ⁴operates through three business segments: Consumer, Pharmaceutical, and Medical Devices (00:03:57). ⁴Pharmaceuticals for immune system disorders, cancer, neurological conditions, infectious diseases, ²cardiovascular diseases, or metabolic disorders like multiple myeloma, along with consumer products in the categories of oral care, baby care, beauty, over-the-counter (OTC) medications, women's health, and wound care. Additionally, the business offers medical devices for use in cardiovascular, orthopaedic, general surgery, and vision care (ShieldSquare Captcha, n.d.), like knee and hip implants (00:05:01).

1.2 Business Model

J&J serves consumer, healthcare, and pharmaceutical customers. Its value proposition includes its brand ¹¹reputation, global sales and marketing reach, innovation and development, and affordable products. The company operates through three business segments: Consumer, Pharmaceutical, and Medical Devices, ³and has a presence in over 60 countries. ³It offers its products through physical retail outlets, drugstore chains, and pharmacies, and its direct sales teams consult directly with customers to establish long-standing relationships. Key activities include research and development, manufacturing, marketing, and selling healthcare and well-being products. J&J collaborates with partner companies for research and development, supplier, commercialisation, channel, and strategic and alliance partners. Its essential resources include technology and intellectual properties, research and development facilities, supply chain and manufacturing facilities, logistics and distribution channels, partnerships, and personnel(Johnson & Johnson, 2016).

1.3 Business Processes

From the interview, we were able to find out that by offering a diverse product portfolio that includes Aveeno, Neutrogena skincare, and Listerine (00:05:43), the company can capitalise on its expertise across various healthcare segments to gain a larger market share and reduce the risks associated with any one

product category, J&J invests heavily in research and development (R&D) to encourage innovation and develop new pharmaceuticals, diagnostic tools, and healthcare solutions that meet the needs of its clients while also addressing unmet medical need (Advancing Public Health: R&D Innovation | 2021 Health for Humanity Report, n.d.). J&J has operations in over 60 countries, giving it a solid worldwide footprint and allowing it to engage with clients in various markets and geographical areas (5 Reasons to Join the Team at Johnson & Johnson Today, 2018). JnJ is spread across North America, like the Middle East, APAC, and Southeast Asia and in APAC alone, you have a good presence for all three sectors of J&J. In terms of overall revenue split, the Pharmaceuticals sector generates about \$50 to \$60 billion, the medical sector about \$20 to \$30 billion and then the consumer sector is another \$20 billion making it an over 100 billion dollar company (00:06:01). Lastly, from the interview we were able to find out that J&J places great value in fostering strong bonds between it and its consumer base. This is done by understanding their needs and being flexible and agile in adapting to changes in demand. The speaker explains how their organisation focuses on providing live tracking of products, digital visibility, and analytics to aid customers in their decision-making.

1.4 Organisational features

From the interview, we could ascertain that J&J follows a Divisionalized Bureaucracy. A decentralised organisational structure that gives its managers and staff more freedom and autonomy across its many operational and business units through multiple functional and divisional groups. Business units and divisional groups have been able to adapt to the needs of each market and better serve those inside it by creating a decentralised structure where more authority and autonomy exist even at the lowest levels. Decentralised organisational structures, such as the one used by J&J, have advantages such as faster decision-making and increased employee empowerment. The organisation benefits from better morale and retention rates by empowering lower-level managers. However, there are also disadvantages, such as less control for senior managers and difficulty achieving consistency across the business. Nevertheless, J&J, which operates over 250 subsidiary companies and brands, is less affected by the challenge of coordinating organization-wide activities when each division operates with substantial autonomy (Oraganimi Inc, n.d.).

2 Competing Environment

The competing environment of J&J will be discussed on three fronts, its competing industry environment, current competitiveness and current industry trends.

2.1 Competing Industry Environment

We will use the five forces model to analyse the competing industry environment. This mainly comprises
the threat of new entrants, suppliers' bargaining power, buyers' bargaining power, substitutes threat, and
the intensity of current competition. (StudySmarter, n.d.)

2.1.1 Threat of new entrants

The industries of J&J, pharmaceuticals and medical devices have relatively high barriers to entry. New entrants should not be a significant threat to J&J due to the large economies of scale and extensive distribution systems of existing powerhouses in the industry. Significant economies of scale significantly reduce fixed costs which hinder new entrants because their costs would be significantly greater than J&J's. (Scott, 2023)

J&J also has the capacity and capital to innovate and undergo research and development to continuously improve their product, which new players in the market may not have sufficient resources to do so. (Scott, 2023)

Other factors, such as brand name recognition and the process of getting Food and Drug Administration Approval, also raise the barriers to entry. This is especially relevant in a pharmaceutical company where consumers purchase drugs from well-established companies such as J&J. (Kasi, 2017). FDA Approval is also a lengthy process for new drugs, while established pharmaceutical companies can produce the same product and get it approved in a much shorter period. (Choudhury, 2020)

This suggests that new entrants should not be much of a concern to J&J.

2.1.2 ¹² Bargaining Power of Suppliers

Suppliers has relatively low bargaining power. This is due to the abundant suppliers that J&J and other pharmaceutical companies can choose from. Their suppliers include raw materials for The drug and any technology for manufacturing and production plants. (Kasi, 2017) Many suppliers are willing to provide these supplies; hence they have a minimal position to bargain and influence market prices.

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2.1.3 Bargaining power of buyers

Buyers have significant bargaining power in the pharmaceutical industry. Most of the bargaining power lies not in the patients but in hospitals and clinics. The consumers, patients, are more or less forced to purchase whatever the clinic or hospital prescribes; hence these medical institutions can bargain for a lower price or threaten to purchase similar drugs from J&J's competitors. (Johnson, 2022)

2.1.4 Threat of substitutes

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Threat from substitutes depends on the drug's patent period. If the drug is within its patent period, there will be no substitutes for that drug. However, once the patent expires, there will be many substitutes as general drug production from other pharmaceutical companies begins. (Whiteside, 2022) 

Depending on the purpose of the drug, there may be alternative medicines and treatments that serve a similar purpose as these drugs. Some examples may be traditional Chinese medication, physiotherapy or counselling. However, these substitutes are relatively weak because they do not have the same purpose as the drugs that pharmaceutical industries provide.

Hence, the threat of substitutes exists only when the drugs produced by J&J are not patent-protected. The threat from external substitutes listed above is present but not particularly threatening.

2.1.5 Existing competition



J&J boasts a market share of 21.51% in Q3 2022 (CSIMarket, 2023), making it one of the most prominent players within the Pharmaceutical preparations space. Other pharmaceutical companies in the market include Pfizer (24.84%), Merck and Co Inc. (13.39%) and Abbvie Inc. (13.26%). Considering how the top 4 companies in the primary pharmaceutical preparations industry makeup 73% of the market, we can consider the industry an oligopoly, suggesting an intense rivalry between these companies.

To conclude, J&J is a well-established company in the pharmaceutical market. It should conduct continuous innovation, research, and development to remain competitive since the greatest threat to the company would be existing, well-established pharmaceutical companies. The threat from suppliers, buyers, new entrants and substitutes remains manageable. It should not be too much of a threat to J&J.

2.2 Business Competitiveness - SWOT Analysis

To assess the business competitiveness of J&J, we will use the SWOT analysis to dive deep into the Strengths, Weaknesses, Opportunities and Threats of J&J.

Strengths: <ol style="list-style-type: none">1. Diversified products2. Strong brand recognition3. Significant economies of scale	Weaknesses: <ol style="list-style-type: none">1. Product recalls2. Uneven revenue distribution3. Allegations
Opportunities: <ol style="list-style-type: none">1. Bio-implants2. Mergers and acquisitions	Threats: <ol style="list-style-type: none">1. Competition from rivals2. Government regulations

2.2.1 Strengths

J&J has various healthcare products, including pharmaceuticals, medical devices and consumer health products. (Gibson, 2023) This allows them to garner high revenue from these product categories. It can also be used as a form of defence by having multiple sources of sales. (CFI, 2023)

J&J also has strong brand loyalty and recognition from its consumers. In 2022, it was ranked top for pharmaceuticals for the ninth consecutive year. (J&J, 2023) This is important, especially when the medicine is involved because consumers purchase from trustworthy, well-established companies. Its brand name serves as one of the biggest strengths of J&J because it ensures a steady stream of consumers.

Tapping on its long history as a pharmaceutical company, J&J had more than 100 years since its establishment to allow it to build up and expand slowly. This dramatically increases the company's economies of scale and allows it to spread its fixed cost per output unit. These lowered fixed costs also allow J&J to pour more resources into innovation, research, and development of new drugs and products.^[14]

In 2020, J&J spent 21% of its gross income on research facilities. (Gibson, 2023)

2.2.2 Weaknesses

In recent years, J&J has been under great scrutiny over its products. Product recalls due to dangerous chemicals in their products will significantly tarnish the company's reputation, which it has spent a lot of time building. In 2019, 33,000 baby powder bottles were recalled when harmful substances were found in

the bottle. (Llamas, n.d.) Additionally, this would induce many lawsuits from the public, where the company's profits will take a significant hit.

While J&J has a diversified product portfolio, half of its revenue comes from pharmaceuticals. (Gibson, 2023) A lack of variety in revenue channels will be a weakness once the patents for the respective drugs expire and other pharmaceutical companies will produce similar drugs. 

Following the product recalls, J&J also faces many allegations, such as gender discrimination in the workplace and bribery. These allegations would also significantly affect its company image, and it should try its best to mitigate these issues immediately to preserve its brand name. A former employee filed a discriminatory workplace lawsuit in 2020 alleging gender discrimination against her. (Becker, 2022) Another incident involving bribery cost J&J \$9.75 million. (Stempel, 2023)

2.2.3 Opportunities

Bio-implants are one of the innovations J&J can venture into. This area has much demand and would allow the company to profit.

Another area J&J can invest in or look into would be telehealth. As most medical institutions offer telehealth (Demeke, 2020) during the pandemic, it opened up new opportunities in this field where face-to-face consultations were unnecessary. This provided patients with greater convenience, and there could be a greater demand for telehealth beyond the pandemic.

2.2.4 Threats

As mentioned in section 2.1.5, several significant competitors in the pharmaceutical industry threaten J&J's position in the market. These include companies like Pfizer, which has established a more fabulous presence after producing the Covid-19 vaccine. The pandemic boosted Pfizer's earnings to \$100 billion in 2022. (Kimball, 2023) A more significant market presence and brand recognition could cause J&J to lose its reputation to Pfizer.

Extensive government regulations in the pharmaceutical industry can significantly limit the profits from the company's products. (Gibson, 2023) Complying with regulations from every country can be tedious and challenging. This could be a potential threat because failing to do so may cause the company to lose its patents or suffer outstanding fines.

2.3 Industry Trends

2.3.1 Business

A worldwide issue that most countries face is an ageing population. Demand for pharmaceuticals will increase in the future. To accommodate this trend, J&J can focus on developing products targeted at the older population (Spence, 2017).



The growth in e-commerce in recent times (ESW, 2023) will also significantly impact how the sale of pharmaceuticals will change. J&J must learn how to adapt to the consumer needs to handle this demand in e-commerce.

Environmental sustainability has also increased (Rafi, n.d.), and there are greater expectations for big companies such as J&J to ensure sustainability in their processes. If done well, they can earn the public's recognition and praise, boosting the company's image and corporate social responsibility.

2.3.2 Technology

There is potential for improving technology in the medical devices sector. The progression of Artificial Intelligence (AI) in recent years will improve disease diagnosis. In 2019, the interim CIO of J&J mentioned how technology could make these medical devices smarter and provide real-time surgical data for surgeons to deliver better surgical outcomes. (Rosenbaum, 2022)



Better usage of data can also be of great help in the pharmaceutical industry. Big data can help accelerate drug discovery and development. Companies may also tap into data to improve their sales and marketing efforts. (AspenTech, n.d.)

With better technology integration into the company's processes, J&J can leverage the benefits of technology and boost its profitability.

3 Main digital transformation activities implemented

3.1 Before Implementation

3.1.1 Why is such Digital Transformation even required?

The Covid-19 pandemic has disrupted businesses and economies globally, including the healthcare industry. As a leading healthcare company, J&J has had to adapt to the challenges posed by the pandemic to continue providing essential services to patients, healthcare providers, and communities worldwide.

One of the ways that digital transformation can help J&J during these challenging times is by enabling **remote communication and collaboration**. With social distancing measures in place, traditional face-to-face interactions have become less feasible, and remote work has become more prevalent. By leveraging digital tools and technologies, J&J can facilitate remote communication and collaboration among its employees, partners, and customers.

In addition, one of the key areas where J&J has had to align its business, and IT strategies are developing and deploying **digital health solutions**. With the pandemic driving an increased need for remote care and monitoring, J&J has had to rapidly develop and deploy digital health solutions that can support remote patient monitoring, telemedicine, and virtual consultations.

Moreover, J&J has had to align its IT infrastructure to support the increased demand for **online ordering and delivery of healthcare products**. This has involved optimising its **e-commerce platforms, supply chain management systems, and logistics capabilities** to ensure that products can be delivered safely and efficiently to customers, even during social distancing and lockdowns.

Additionally, digital transformation can help J&J optimise its **supply chain and manufacturing operations**. With disruptions to global supply chains and increased demand for certain products, companies like J&J have had to quickly adapt their operations to continue producing and distributing essential products. By leveraging digital technologies like automation, artificial intelligence, and data analytics, J&J can optimise its supply chain and manufacturing processes to increase efficiency and reduce the risk of disruptions.

Overall, digital transformation can help J&J navigate the challenges posed by the Covid-19 pandemic by enabling remote communication and collaboration, expanding telehealth offerings, and optimising its supply chain and manufacturing operations.

3.1.2 Digital transformation activities already implemented

In 2020, J&J launched a new digital platform called Health Partner, which connects patients with healthcare professionals for virtual consultations and remote monitoring. J&J piloted the platform in a small group of patients to ensure a smooth deployment, gather feedback, and make improvements before rolling it out to a larger audience.

J&J also uses a phased approach in their digital transformation initiatives, gradually introducing new technologies and processes. For example, in their pharmaceutical manufacturing process, they implemented a new technology called continuous manufacturing, which allows for a more efficient and flexible process than traditional batch manufacturing (PharmaTech, 2016). J&J piloted this technology in one of their manufacturing sites and gradually rolled it out to other sites over several years.

Another example of J&J's digital transformation is its hybrid cloud infrastructure. They have a mix of private and public cloud solutions, which allows them to balance security and scalability needs. J&J also uses a hybrid approach to their application development, where some applications are hosted in their own data centres, and others are hosted in the cloud (Venkataraman, 2014). This allows them to take advantage of the benefits of both on-premise and cloud-based solutions.

J&J also leveraged digital tools and platforms to enable remote collaboration and communication among its employees, partners, and customers. The company also used advanced analytics and AI to optimise its supply chain and ensure the availability of critical products, such as medical devices and pharmaceuticals. Moreover, J&J used digital marketing and e-commerce channels to reach and engage with customers who were increasingly shopping online.

¹⁹ J&J has combined advanced technologies such as artificial intelligence, machine learning, data science, digital health, and real-world evidence to accelerate drug development and improve clinical trials and cancer diagnosis. The company is leveraging cloud computing to simplify healthcare and improve patient outcomes. It also uses 3D printing technology to create digital models and templates that are personalised to individual patients to improve surgical efficiency and clinical outcomes.



The company is also applying **wearable technology** in clinical trials to study the effectiveness of **canagliflozin** in heart failure patients with or without type 2 diabetes (PR Newswire, 2019). J&J has established **innovative programs** such as J&J Innovation, JLABS, and innovation centres in California, Boston, Shanghai, and London, tapping the best minds in science and technology within their respective regions. **J&J** has strategically focused on disruptive technologies such as **AI** and **machine learning**, **3D printing**, **robotics**, **mobile health**, **cloud computing**, **wearable tech**, **big data**, and **virtual and augmented reality** to develop innovative healthcare solutions and improve efficiency operations.

3.1.3 How are the decisions made?

J&J uses the **top-down approach**. Since J&J has **multiple IT teams** across different parts of the **organisation**, such as **Sales, Inventory, Business**, etc., they all report to the **centralised IT team**.

The top-down approach allows for **consistent decision-making** and ensures that **all the IT projects align with the company strategy**. The centralised IT team lead is responsible for evaluating the cost-benefit analysis of each project and then deciding on which project to take on. This approach helps to prioritise IT projects based on their value to the organisation.

The centralised IT team lead will then decide which project to take on via the cost-benefit analysis. Once the IT lead makes the decision, the project will then be carried out. J&J is a global company with a specialised services team that oversees all IT projects in different regions. The centralised IT team lead of the individual region will then report on their decision-making and projects undergoing to the technical services team about their IT development and plans.

3.2 During Implementation

J&J's approach to implementing Digital Transformation will be discussed regarding their deployment mode, project management and management change.

3.2.1 Deployment mode

J&J takes a **hybrid parallel, piloting and phased strategies approach**. They first test the IT infrastructure in a controlled and small environment, **pilot testing** the product feasibility. An example was the **DePuy**

Synthes factory (Sharpio, Feb 2023) in Suzhou, which integrated advanced technologies and data analytics to optimise productivity, improving demand predictions and increasing the agility of its supply chain. This strategy resulted in a 15% increase in productivity. J&J then adopted the technology integration using their old distribution and manufacturing process; they slowly changed and built more infrastructure to support this new digital transformation, changing their process over time. This also incorporates the phased strategies where they started at one warehouse and phased it to multiple warehouses, as seen by the new distribution centre warehouse opened in 2021, allowing the company to boost efficiency. This was carried out smoothly during covid-19 because medical needs were still relevant, and hospitals needed these surgical instruments. J&J also accelerated this process in terms of using technology to increase efficiency in the manufacturing and distribution process so that the output efficiency is not affected by humans who are susceptible to covid-19 at that time.

3.2.2 Project management:

J&J needs to deal with five variables:

Scope

J&J sets priorities for their digital transformation projects based on the business goals and objectives they want to achieve. The IT team lead, and members from different fields within the organisation discuss and define the project scope, outlining what features and functionalities are necessary to meet the project goals. They prioritise these features based on their importance and feasibility, which helps them allocate resources and manage the project effectively.

Time

J&J plans the timeline for their digital transformation projects based on the scope and goals of the project, taking into account any potential delays such as the covid-19 pandemic. They identify critical milestones and deadlines and work backwards to determine the necessary steps and resources to meet those goals within the timeline.

Cost

The IT leader at J&J discusses with their team members how to allocate the budget and human resources for different tasks in the project. They weigh the costs and benefits of different options, including outsourcing specific tasks to solution companies like KPMG and Accenture, to ensure they make the most cost-effective decisions. They also consider factors like the long-term maintenance costs of the digital solution and any potential savings it could generate for the business.

Quality

After every task is completed, the IT team leader will check whether it meets the goals and expectations for the product. If it does not, they will need to refine the product.

Risk

Since J&J is not a technology company, they need more expertise and a workforce to build an efficient IT product for digital transformation. Hence, to alleviate this risk, they liaise with solution companies such as KPMG and Accenture to provide them with technology specialists to create an optimal IT solution for the project.

3.2.3 Change Management

One of J&J's concerns on the individual level was that their priorities were different for everyone. In remote areas in China and Australia, the workers prioritise their job security over efficiency. Hence they are less inclined to change due to fear of technology taking over their jobs. Whereas for the business side of J&J, they prioritise efficiency, which technology can offer them. Thus, one strategy they adopted is to define clear expectations and roles of the workers, assuring them that they are not getting replaced if their work is not redundant, and providing them with training workshops to know how to operate these technologies.

Another concern on the organisation level is the communication between different teams during the implementation of digital transformation. Especially with the advancement of technology and constant changes in digital transformation, there are many moving parts in the organisation which can cause much miscommunication. Thus, the organisation's strategy is to let senior leaders oversee these management changes(Schultz, Mar 2021). With their experience, they can make better decisions which benefits J&J the most, allowing a smooth change in management. The organisation also emphasises constant communication about the project updates, constraints and issues faced, aligning everyone involved to be on the same page. Thus, everyone will know what to expect, improving communication between teams. The IT team leader will then decide whether changes are needed to address these issues.

3.3 After Implementation

3.3.1 Outcome

According to our interview, through adopting a hybrid approach of parallel, piloting, and phased strategies. J&J managed to slowly change and build more infrastructure to support their new digital transformation. This results in increased productivity, manufacturing and distribution efficiency, and business structure agility(Watson, Mar 2019). With such improvements, J&J experiences improved cost reduction and enhanced customer experience.

3.3.1.1 Outcome: Impact On Organisation

Adopting digital technology enabled J&J to streamline its operation and reduce the time and resources required for various tasks. For instance, integrating data analytics and the DePuy Synthes factory in Suzhou has resulted in a 15% increase in productivity (Shapiro, Nov 2021), allowing the company to optimise its supply chain and improve demand prediction(Helping reduce wastage).

Furthermore, J&J is now more agile and able to respond quickly to changes in the market, further allowing them to remain competitive and adapt to new market trends.

3.3.1.2 Outcome: Impact On Business

Through leveraging digital technologies, J&J used e-commerce platforms to allow customers to easily purchase J&J products online, bringing ease to the customer(Shapiro, Nov 2021). Furthermore, customer feedback and complaints were readily noted and answered through such platforms.

Additionally, by optimising its operation and reducing the need for manual labour with digital transformation, J&J reduced their production cost(Davenport, Mar 2023). For instance, using automated systems in manufacturing and distribution has resulted in significant cost savings for the company.

3.3.2.1 Reflection: Successful Experience

Through the implementation of digital transformation, J&J experiences increased efficiency, improved data analytics, better collaboration and enhanced customer experience. Efficiency and customer experience have been mentioned above.

Using data analytics, J&J gained insights into customers' behaviour and preferences, which helped them develop better products and services. In addition, improving the collaboration of different teams and departments within the organisation resulted in better communication and faster decision-making with digital transformation.

3.3.2.2 Reflection: Challenges Along the Way

However, with changes, J&J faced challenges while implementing digital transformation. According to the interview, challenges include **Resistance to change, Data privacy and security, and Cost and Skills gap.** Some employees were resistant to changes by digital transformation, making it challenging to implement. With the increased use of digital technologies, there was an increased risk of data breaches and cyber attacks, which could compromise the company's sensitive data. Implementing digital transformation requires significant investment in technology and infrastructure, which is extremely expensive when applied to such a big-scale organisation. Lastly, implementing such transformation requires J&J to hire new talent with specialised skills, which can be challenging in a competitive market, potentially resulting in an issue with a skills gap.

3.4 Future Implementations

3.4.1 What is The Roadmap Ahead for Digital Transformation

Moving Ahead, J&J aims to leverage the latest digital technologies to enhance the company's overall business performance, create new growth opportunities, and adopt a more customer-centric approach(Chilukuri and Kuiken, Apr 2017). The company developed a comprehensive roadmap for digital transformation, which we will explore and analyse.

3.4.1.1 Roadmap Ahead: Digital Transformation Arrangement

Data Analytics and Artificial Intelligence: With the increasing amount of data available in the healthcare industry, J&J plans to leverage data analytics(Williams, n.d.) and AI to gain insights into patient outcomes, optimise clinical trials, and improve supply chain efficiency. Through such implementation J&J could make faster and more informed decisions, leading to better patient outcomes and cost efficiency.

Address cybersecurity concerns: As J&J's digital footprint expands, it must address cybersecurity concerns to protect its sensitive data and intellectual property. This could involve investing in robust cybersecurity measures and ensuring employees have been trained on cybersecurity best practices(Chilukuri and Kuiken, Apr 2017).

Digital Health Solution: J&J aims to develop and launch digital health solutions that complement its pharmaceutical products. For example, J&J would create mobile applications or wearable devices that help patients track their health conditions, monitor medication adherence, and communicate with healthcare providers(Bianchi, Nov 2016). Through offering digital health solutions, J&J aims to improve patient engagement and outcomes while generating new revenue streams.

Supply Chain Optimisation: J&J aims to use digital technologies to optimise its supply chain and logistic operation. For instance, they are planning to implement blockchain solutions to improve transparency and traceability in the supply chain. Hence, reducing inventory levels prevent counterfeit drugs from entering the market. Thus reducing cost, improving efficiency, and ensuring patient safety.

3.4.1.2 Roadmap Ahead: Serving What Business Objectives

Johnson and Johnson is committed to driving digital transformation in the pharmaceutical industry to improve patient outcomes and stay ahead of the competition. To achieve this, the company has developed a roadmap that serves specific business objectives. J&J aims to improve patient care and better health outcomes through personalised treatment through data analytics and digital healthcare technologies. Furthermore, with a more streamlined business operation using supply chain management, J&J aims to achieve higher and more efficient output and reduce cost and wastage. In addition, by providing better healthcare solutions and treatments, Customer experience would be enhanced, increasing customer loyalty and brand recognition. Lastly, by developing and launching a digital health solution, J&J could create new revenue streams and diversify its business portfolio. Thus, increasing its competitiveness in the ever-evolving healthcare industry(Chadha, Chilukuri and Kuiken, Oct 2017). Overall, Johnson & Johnson's future implementation of digital transformation will be centred around leveraging technology to create value for patients, healthcare providers, and the company itself.

4 Discussions

J&J has been actively pursuing digital transformation to improve its business operations and better serve its consumers. In recent years, the corporation has made significant investments in technology and digital capabilities, including forming a dedicated digital team and collaborating with external technology firms. For instance, DePuy Synthes, J&J's orthopaedics company, introduced VELYS, an innovative robotic-assisted solution for knee replacement surgery. The system is intended to be used with DePuy Synthes' ATTUNE Knee System, a total knee implant. The technology was created to help doctors improve patient outcomes by simplifying knee replacement surgery (Johnson & Johnson - Digital Transformation Strategies, n.d.).

J&J has also realised the significance of aligning its business and information technology goals to achieve the potential of digital transformation fully. The corporation has developed clear communication routes between the business and IT departments and implemented an integrated IT governance structure. J&J has also implemented agile approaches to increase the speed and flexibility of its technological development operations. The interviewee mentioned that the IT organisation is evolving, and the company is reorganising with the help of its partner, McKinsey, to operate as a more effective High Performing Team (HPT) with product management. The speaker foresees future changes in the business IT alignment with J&J as the organisation evolves.

The COVID-19 pandemic has caused substantial changes in the healthcare industry, resulting in several developments that will shape its future. The rising use of telehealth and virtual care, which allows patients to receive care remotely, is one such trend. Another emerging trend is using artificial intelligence and machine learning to assist healthcare personnel in making more accurate diagnoses and treatment decisions. The epidemic has also hastened the development of digital health solutions, including wearables and mobile apps that can assist individuals in managing their health and wellness. Finally, the pandemic has emphasised the importance of improved supply chain management and increased investment in public health infrastructure. These themes are predicted to shape the future of healthcare even after the pandemic has passed (These Trends Are Shaping the Future of Healthcare in the Post-Pandemic World | Ultimate Medical Academy, n.d.).

5 Conclusions

This research paper examined the various digital transformation strategies employed by J&J especially during the pandemic and it can be seen that they displayed great adaptability and flexibility in the face of adversity. By leveraging on technology, they have successfully implemented numerous digital initiatives that allowed them to continue operating efficiently despite the disruptions faced. Their investments in digital infrastructure and focus on customer centricity enabled them to transition with relative ease to a more digitised business model allowing them to satisfy the myriad changing needs of their customers.

Overall, in order to maintain its competitive edge in an increasingly digital and fast evolving environment, the company must continue to prioritize digital innovation and agility in the future.

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