

SUMMER TRAINING

AT



(17th May 2021 to 16th July 2021)

Innovation and Sustainability in Healthcare sector

Report By

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(MBA PHARMACEUTICAL MANAGEMENT)

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The internship possibly I had with Indian Immunologicals Limited became incredible chance for gaining knowledge and manifest improvement. The happiness and euphoria that accompany the project's successful completion would be incomplete if the people who made it possible were not mentioned. I am thankful to have a chance to meet such wonderful individuals and pros who guided me during my internship.

Significant to thoughts preceding I use this possibility to express my heartfelt gratitude and heartfelt appreciation to [Mr. Santosh Kumar Dash \(Sr Manager PMT\)](#) for providing an opportunity to learn and develop professionally.

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I am very much indebted and thankful to all the Product Managers, Supply Chain Managers, Doctors, Marketing Managers of Pharmaceutical Organisations for their participation and cooperation.

I will attempt to win skills and understanding in the great viable manner, and I will continue to paintings on my improvement, to acquire favoured professional goal. I perceive this opportunity as a big milestone in my professional development. Hope to safeguard cooperation with all of you along the destiny.

Dikshita Hatwar

IIHMR UNIVERSITY, JAIPUR

CERTIFICATE

This is to certify that the project entitled “**Innovation and Sustainability in Healthcare**” submitted in partial fulfilment of the requirement for the degree of Master of Business Administration in IIHMR, Jaipur embodies the original work carried out by [Dikshita Hatwar](#) under my supervision **Indian Immunologicals Limited, Hyderabad.**

The work has not been submitted in part or full for the award of any other diploma/degree in any other university in our knowledge.

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Acronyms/Abbreviations:

IIL- Indian Immunologicals Limited

TCARV- Tissue Culture Anti Rabies Vaccine

CME- Continuing Medical Education

AR- Augmented Reality

OBSERVATIONAL LEARNING

INTRODUCTION:

Indian Immunologicals Ltd is biopharmaceutical company headquartered in Telangana Hyderabad. One of the most major vaccine manufacturer in this world. IIL were entrenched in 1982 by National Dairy Development Board. It is intended for the production of veterinary and human vaccines against mouth and foot disease, rabies, bacterial vaccines, hepatitis, measles, MMR, and DPT.

The Gachibowli-Hyderabad facility manufactures vaccines, whereas the Karakapatla-Hyderabad facility manufactures animal health formulation and human vaccines. The IIL facility in Ooty manufactures the entire human anti-rabies vaccine, "Abhayrab." Pristine Biologicals Pvt Ltd is IIL's subsidiary in New Zealand, and it is involved in the production of serum, in addition to production of vaccines.

In 1999, IIL established Human Biologicals Institute (HBI) in Ooty, Tamil Nadu, manufacture modern Tissue Culture Anti Rabies Vaccine for human use.

IIL is the 3rd largest animal health player in the Indian market, as well as the market leader in veterinary biological. It has one WHO-GMP and ISO-9001, and 27000 certified plant.

IIL also introduced the world's 1st **Porcine Cysticercosis-Cysvax vaccination.**

IIL is solely producer of companion animal vaccine in India.

HUMAN HEALTH:

IIL has manufacturing facility at Ooty that produces a vero cell culture rabies vaccine for human use. This plant was established in 1998 on the request of the Indian government in order to replace the older and potentially dangerous sheep brain vaccine with modern tissue culture vaccine.

The plant that set about business production in the phases from September 2006, meets an outsized part of necessities of a Universal Immunisation programme of a Ministry Health, Government of India.

Business Segments

IIL exports its merchandise to several countries across a globe with a client focus on Middle East, Asia, Africa, CISR countries and increasing in Central America and the Latin America.

IIL is developing the coronavirus vaccine in an cross-continental collaboration and is the leading intercontinental research collaboration in partnership with the Griffith University, Australia to develop a live attenuated SARSCOV₂ vaccine or the Covid-19 vaccine being using the latest Co-don deoptimization technology.

MISSION

To improve and extend people's lives by innovating, producing, and marketing high-quality healthcare products and services.

PROJECT OBJECTIVES:

To understand an overview of healthcare industry and role of different stakeholders

- Understanding the need of innovation for each stakeholder
- Understanding the types of innovation
- Understanding challenges which led to product, process & paradigm innovation in

3 Vaccine manufacturing companies

3 Major Companies in the Nutraceutical Segment (Vitamins & Minerals)

4 Major Companies in the Gynaecology & Infertility Segment

4 Corporate Hospital

- Importance of innovation in sustaining the business
- How companies drive sustainability and improvement on innovations

MODE OF DATA COLLECTION:

Primary Data: Data is obtained using **survey method(Telephonic Interview)** with Marketing Manager, Product Managers, Customer Relationship Managers, Strategic Managers, Business Unit heads, Supply Chain Heads, medical doctors like Gynaecologist, Head of Corporate Hospitals, Nutrition Manager.

Secondary Data: Data is amassed through research. Internet research.

GENERAL FINDINGS:

Healthcare Industry is one of the biggest in the world and has distinct effect on the quality of life of the people in each country. The delivery of the modern healthcare depends on groups of trained professionals and paraprofessionals coming together as interdisciplinary teams. The patient-centricity has increased vastly in pharmaceuticals companies, corporate hospitals and every other sector of healthcare.

Some of the key findings of the study-

- Teleconsultation services have seen a surge in recent times and patients are more friendly towards it.
- The internal and external stakeholders have the key role to play in a healthcare and comesup with a great responsibility.

- The healthcare stakeholders are which used in the study are Doctors, Health insurance companies, pharmaceutical companies, Government, Academician, Medical Device companies, Non-Government Institutions, Regulatory Institutions.
- In addition, product innovations have been observed in many pharmaceutical and biotech organisations including new technological and innovative changes. Patient-Centricity has increased and is being centre focus of these companies.
- Many companies like Glenmark and Alembic has developed their products for the patient benefit and also to sustain in the market.
- Some companies have also developed **3-D printing** of medicines which is a breakthrough innovation. “**Spritam**” became the first 3D printed drug approved by FDA. It builds the pill by spreading layers of drug on top of one another until the right dose is reached. This allows the pill to deliver a higher dose of medicine up to 1000 mg while being porous enough to dissolve quickly.
- Furthermore, the trend of “**Precision Medicine**” is streaming. It is an approach that integrates clinical and molecular information to understand a biological basis of disease. It leads to the better outcomes and reduced unpropitious effect.
- Johnson & Johnson, Zydus and Glenmark have undergone tremendous process innovations in marketing, supply chain management and in other areas. They include using of AI, Augmented Reality, CME (Continuing Medical Education) for doctors and stakeholders. Also, some of them uses Doctor Tracking Mechanisms and awareness about the disease.
- Many innovations in supply chain are also noticed like Truck Platooning, Blockchain and Collaborative mobile robots which made the supply chain way more effortless.
- The Nutraceutical Companies on the other hand are developing products with added benefits.

- Vaccine companies are developing many advance vaccination procedures and techniques. The Pentavalent Vaccine which provides protection against one or more deadly disease, is a 5-in-1 vaccine.
- Corporate hospitals are indulging in many advancements for their patients have extremely invested with in a building infrastructure, interiors, client care services, frequently upgrading medical equipment, continuously showcasing differentiation and advancements amongst the competitors.

CONCLUSIVE LEARNING:

As the opportunities in Healthcare Sector are tremendous so as the innovations. There has been innovations which serves the patient from healthcare services to patients- medical devices to customers. Healthcare consumes more than 10% of a gross domestic product in a most developed countries, and it can be a huge part of a country's economy. Many breakthrough innovations in the healthcare have been developed which contributes to the best of customers and consumers. These processes and technologies have made the system of work so effortless and creative. Several technological advancements have come up which needs to be adopted by every company favouring the goal of sustaining healthcare. The sustainability of healthcare innovations and technologies are much higher in this era where the use of AI, Augmented reality, mobile robots and various other technologies have incorporated successfully. Various segments have also developed several new applications and processes which will help company to sustain in market.

SUGGESTIONS:

1. As personalised medicine is a new concept introduced, company should adopt this to meet the requirements of people. As it is a method of determining the biological basis of disease by combining clinical and molecular data. Patient- centred focus is the new definition of healthcare.
2. Digital reach between the people should increase, as digital is the new boom in the market and a company have a competitive edge over other companies when they go digital.
3. As the company's supply chain management is very well improved, they can also incorporate smart sensors which can lower operational costs, improve asset efficiency, improve demand forecasting, and provide crucial insight into customer behaviour.
4. Company could also incorporate patients in their advisory board and design to meet the trial requirements. Patients can also be involved in decision making of drug companies.

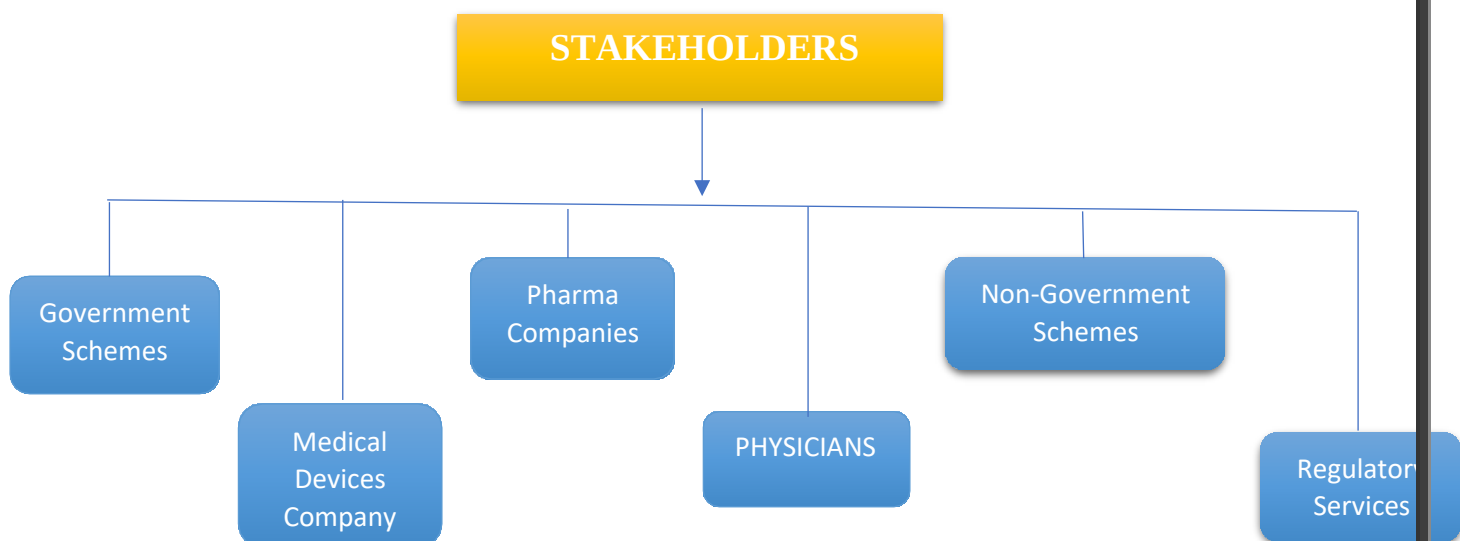
PROJECT REPORT

INTRODUCTION:

The key to a sustainable future is innovation. “Innovation is defined as the introduction and application of new or improved ideas, products, services, processes, or technologies that benefit individuals or a group of society as a whole.” A company will not be able to outgrow its competitors unless it can innovate.

India's healthcare business is currently valued more than \$70 billion and it is predicted to reach \$280 billion by end of 2020. India has emerged as one of the most promising and developing areas in recent years.

Numerous stakeholders share an important play in healthcare sector.



GOVERNMENT SCHEMES

- 1.Aarogya Raksha Scheme
- 2.Mission Indradhanush
- 3.Rashtriya Swasthya Bima Yojana
- 4.Revised National TB Control

NON-GOVERNMENT SCHEMES

- 1.Indian Red Cross Society
- 2.Tuberculosis Association of India
- 3.All India Blind Relief Society

The diversity and enormity of healthcare necessitate large-scale interventions in the form of innovations that produce the desired results. Innovation may be a viable solution to ensuring faster and more sustainable responses to the rapidly changing needs of the Indian healthcare system.

Because of its distinct characteristics, healthcare stands apart from other industries or sectors. This industry has a huge scope for innovation. As there is a lot of variety here. The innovations could benefit everyone from stakeholders to hospitals. A number of countries have built inexpensive innovation centres in response to the pressing requirements of individuals seeking the healthcare services and the increasing expense of delivering healthcare services. The specific and delicate issues that these markets have faced have necessitated the development of indigenous solutions and prospects has been a major driver of innovation.

This strategy must be accepted by all parties involved in the healthcare chain, not just a few. Government is conceptualising creative policies and initiatives aimed at ensuring that patients receive the best care possible.

RATIONALE:

The fundamental reason for this proposal is to study the “Innovations and Sustainability in Healthcare Sector’. Innovations is the most important in sustaining future. There are tremendous opportunities for innovations in healthcare industry as it is unique with diverse characteristics. Innovations in different sector of healthcare are studied. Pharmaceutical and medical device companies is developing new products to make healthcare more accessible and affordable, while healthcare providers focus on innovative healthcare delivery methods and approach that may improve the quality of care.

The patient-centricity is at the centre focus of healthcare sector where all the innovations and advancements revolve. The main aim is to provide the affordable and adaptable quality care.

OBJECTIVE:

1. To study the different types of innovations in healthcare sector.
2. To understand challenges led to product, process and paradigm innovations.

METHODOLOGY:

Research Design:	Descriptive
Research Type:	Observation Method
Study Timeline:	Two months (May 2021-July 2021)
Research:	Survey Method
Mode of Data Collection:	Telephonic Interview
Sample Size:	4 Corporate Hospitals 3 Infertility Centres 3 Vaccine manufacturing Companies 3 Nutraceutical Companies

ANALYSIS & INTERPRETATION:

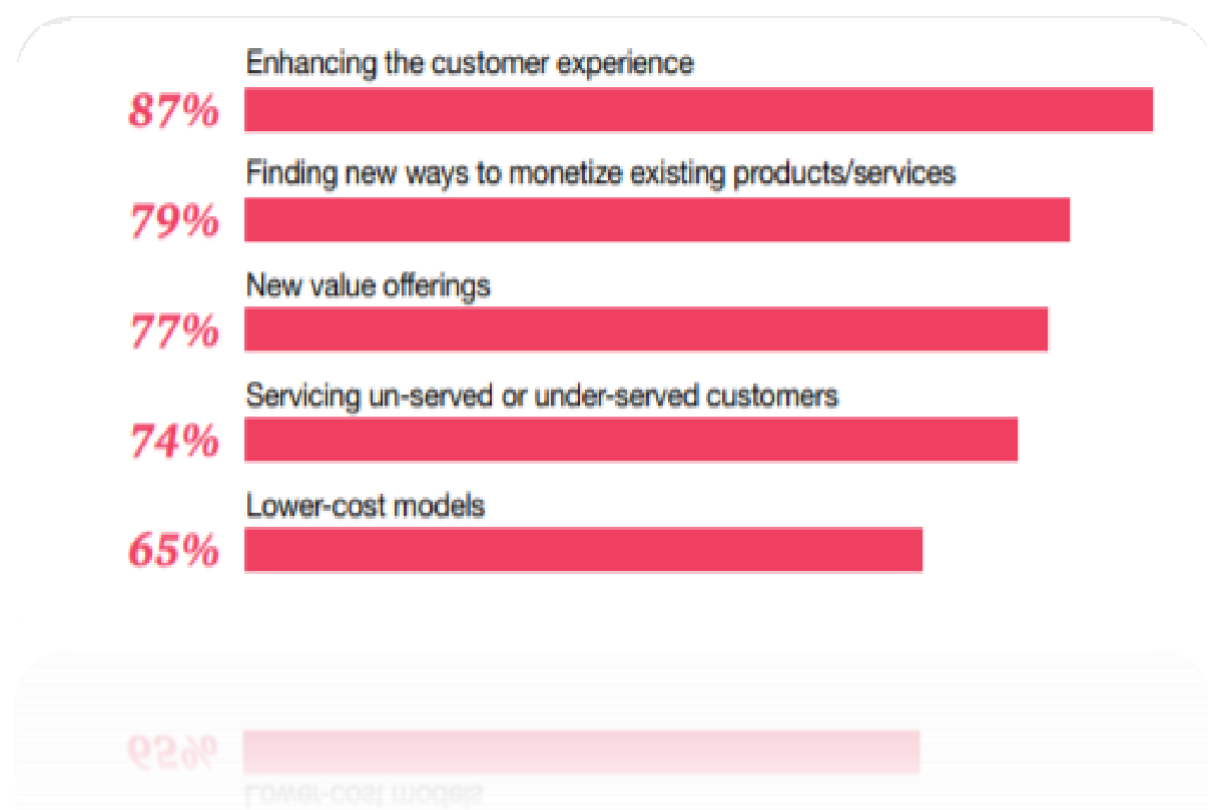
Data has impacted many aspects of the pharmaceutical value chain, from discovery of drug to clinical development to patient identification, as well as drug dosing and adherence for patients. Patient and healthcare ecosystem outcomes have improved as a result of data adoption in pharmaceuticals: decreased healthcare delivery costs, increased patient access to excellent healthcare, and data-backed healthcare delivery.

According to analysis, in the last five years, the percentage of sales from products launched by ten Big Pharma companies has ranged between ten percent and is expected to continue in the same range in the next five years. The benefits of effective innovation are enormous. We discovered the clear relationship between innovation and growth, the most innovative 20% of our study grew at a rate that was 16 percent higher than the least innovative. Looking ahead, the top20 percent of innovators in our poll anticipate three times the growth of the lowest 2 percent in the next five years.

The collaboration of pharma companies brings about the results. Another key aspect where pharma companies need to do more are **co-creating with customers**.

Physicians and other healthcare practitioners have long had partnerships with pharmaceutical corporations. Payers on the other hand, are playing an increasingly essential role. Reimbursement is increasingly being linked to patient outcomes by payers. Pharma companies will have to prove not just that their medications function, but also that they work better or are less expensive than the competitors.

Pharma professionals are focusing on enhancing the customer experience, services and existing products. As pharma companies have started aiming for patient-centred model rather than profit-centred the consumers became the centre focus and likewise amplifying service models and rethinking businesses.

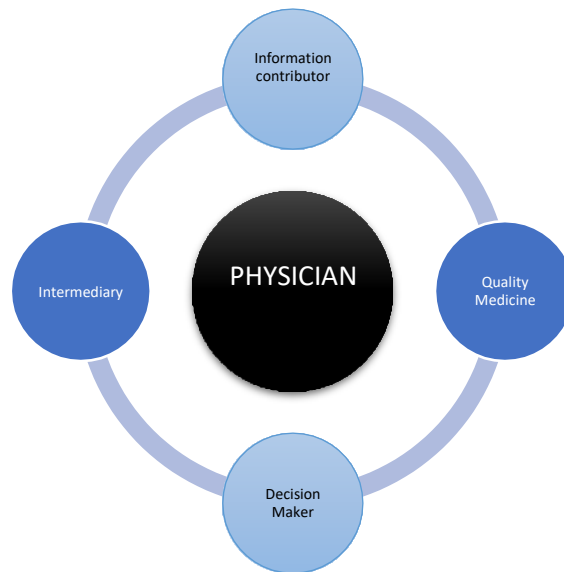


Some of the key analysis from the project are-

1.Healthcare stakeholders- The purpose of the stakeholder involvement in a medical research is to provide information that's more relevant and valuable to a people making real-world health-care decisions, with the hope of boosting the distribution and uptake of research findings in clinical practise.

- Health is the responsible factor that affects country's aggregate level of the economic growth. Dr YSR Aarogyasri **scheme** for the welfare of the poor, Arogya Raksha **scheme** is for Above the Poverty Line (APL) Working Journalist **Health Scheme** that provides cashless treatment cover for specified procedures. **Revised National TB Control Programme, Mission Indradhanush, Pradhan Mantri Swasthya Suraksha Yojana (PMSSY), Rastriya Swasthya Bima Yojana.**

- Regulates the use of medical technology for research purposes. Fiscal incentives to encourage medical device research, development, production, and importation. The rules for obtaining a patent and a trademark. Encourages drug research that is both safe and effective. Safety, efficacy, and compliance are all priorities. Controls medicine costs to ensure that healthcare is affordable. Large corporations have a competitive advantage. To safeguard public safety, the drug industry is restricted.



- Regulatory services-Ministry of the Health and Family Welfare, Central Drug Standard Control Organization (CDSCO), Drug Technical Advisory Board and Drug Controller General of India, National Pharmaceutical Pricing Authority.

2.Product Innovation- Product innovations are described as the introduction of items that deliver better results than similar products on the market or that help meet unmet demands. Product innovations, in most circumstances, bring value to consumers in the form of greater quality, efficacy, and lower pricing, as well as to businesses in the form of new market entry, increased market share, and superior cost-effectiveness.



The FDA authorised the first 3D printed medicine, "Spritam," for treating epilepsy. Aprelia Pharmaceuticals, a drug's manufacturer, claims that the oral treatment is created using a 3-D printing technique that involves spreading layers of the drug on top of one another until the desired dose is achieved



Precision medicine is a method of determining the biological basis of disease. Genome sequencing, a procedure that converts DNA into data, can be used to gather this information.

3.Process Innovation- New or improved steps performed to increase corporate performance are referred to as process innovations. Small internal improvements, enhancements in sub-processes, process redesign, and even rethinking the whole value chain are all examples of process innovations. In healthcare, this refers to organisations matching their business processes to the interdisciplinary dynamics. The possible areas of process innovation include-

Internal processes: Research, development, human resources, sales, and commercial operations are all being improved.

Health Resources: A fair distribution of resources (Financing, human resources and infrastructure)

Delivery Systems: Repositioning of the existing market services/products based on diseaseburden, geography, and distribution channel.

Process innovations have aided healthcare businesses in significantly increasing productivity, consistency, and profitability, as well as improving quality assurance systems and meeting expected scalability levels. Many innovations hatched on the shop floor have revolutionized corporate processes.



J&J leverages AI talks in particular (Personalized communications is initiated). Doctors and stakeholder managers are educated using Augmented Reality (AR). A specific application is utilised to aid communication.



Engagement with doctors based on modules. Doctors and stakeholders might benefit from CME (Continuing Medical Education). This organisation collaborates with a number of national and international organisations.



Doctors Tracking Mechanism is used by Glenmark. Various social media platforms are used to raise disease awareness. Doctors are educated through a series of webinars. Also Glenmark uses many digital platforms to serve their consumers.

Innovations in Supply Chain Management-

3D scanning as a source of supply chain innovation -We can reinterpret the tangible world thanks to 3D scanning. It's changing the way we create, model, and display real-world things and settings, allowing for greater design efficiency and precision. Across the supply chain

lifecycle, companies can use 3D technologies to gain benefits in a variety of industries and increase flexibility, efficiency, and cost savings. Learn how 3D scanning technology will allow further options for supply chain innovation by increasing the pace of design, maintenance, and repair.

Smart sensors are being used to stimulate supply chain innovation- Smart sensor integration in the supply chain can lower operational costs, improve asset efficiency, improve demand forecasting, and provide crucial insight into customer behaviour. As we see more widespread adoption and applications for consumers and businesses, augmented and mixed realities will progressively become a part of "conventional" PCs, smartphones, and other devices. In our report, we go through how augmented and virtual reality may help businesses succeed.

Blockchain is being used to promote supply chain innovation- The network effect is extremely beneficial to blockchain. Once a critical mass has formed in a supply chain, it becomes much easier for others to join in and reap the benefits. Companies should look to other players in their supply chain, as well as competitors, for clues on whether to construct a blockchain prototype.

Virtual reality is being used to promote supply chain innovation-There are new realities to be discovered. Recent technological advancements have made it possible to create gadgets that enable supply chain operations, cross-industry innovation, product and process design, virtual collaboration, and experience-based learning. Mixed and augmented realities will be used in the future.

Renewable energy is being used to stimulate supply chain innovation-Renewable energy can be leveraged throughout the supply chain to lower long-term costs, reduce risk, generate new revenue, boost brand value, and boost employee engagement. Companies should re-evaluate

their energy procurement strategy as technologies and laws advance to take advantage of these benefits. Before you make the switch, make sure you have everything you need.

Unique Innovations in Supply Chain Management



Truck platooning is a new and unique concept that allows for more vehicle-to-vehicle communication, allowing trucks to travel closer together than usual while maintaining constant communication.



When compared to typical warehouse automation solutions, collaborative mobile robots provide more flexibility and scalability, increasing order picking efficiency and improving accuracy by helping employees through tasks.



Blockchain is a distributed ledger of transactions that can increase supply chain transparency, reliability, and efficiency. While the concept of blockchain in the supply chain is still in its early stages, it has the potential to benefit all industries.

3.Paradigm Innovations- The history of the pharmaceutical industry can be divided into three primary paradigms, each of which is the result of a constant interplay between science, technology, corporate organisations, national institutions, and the broader evolution of economic and social advancements.

The first paradigm dates from the mid-nineteenth century, when chemistry's influence on pharmaceutical research had matured.

The second paradigm necessitates a greater knowledge of organisational characteristics that differ from those of 19th-century pharmaceutical enterprises.

The third paradigm reflects changes in the mix of companies involved as well as regional shifts in pharmaceutical expertise. Its setting is more collaborative and networked than prior paradigms.

Patient Involvement in Advisory Boards and Drug Design

To better meet their requirements, drug companies incorporate patients in medication development, trials, and even decision making.

After all, their pharmaceuticals are destined for the end user, and having drugs that are developed for patients' greatest convenience in a more regulated manner will benefit both parties.

New Drug Strategies

Pharma businesses will focus on novel techniques relying on technology to appeal to providers and payers rather than traditional drug manufacture and marketing. Pharma businesses will focus on novel techniques relying on technology to appeal to providers and payers rather than traditional drug manufacture and marketing.

One such tactic is the "around the pill" strategy. It refers to manufacturing a medicine and adding a digital health technology to it, rather than simply producing and marketing drugs as is.

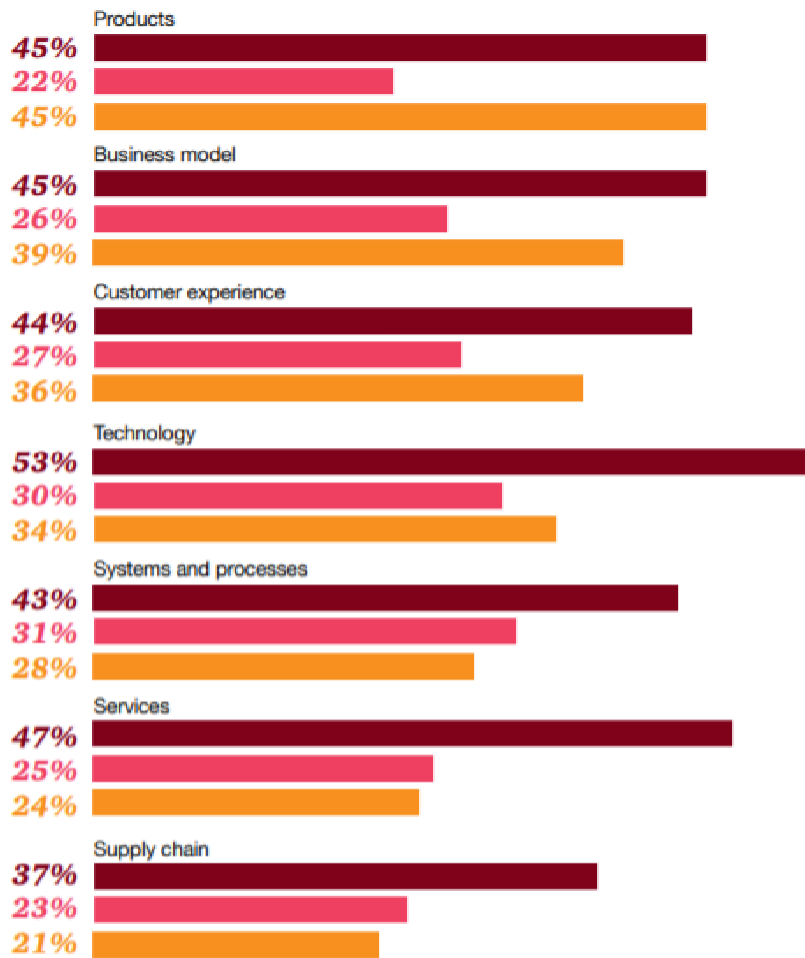
45% of pharmaceutical companies are expected to perform breakthrough innovation in coming years.

The greatest innovators are also interested in business model innovation. CEOs are praising it as an example of inventive thinking in response to the world's growing health requirements.

By contrast, customer experience, technology, supply chain has been increasing at 36%, 34% and 21% respectively.

This is a good sign where companies are initiating at their level best to innovate in every sector and sustaining in the market. The return on effective innovations are huge.

The stakes in pharma are high than in any other industry. Pharma executives are spending more on innovations. Strategic alliances with biotech firms remain one of the most important forms of collaboration and potential sources of radical or breakthrough innovation.



INNOVATIONS IN CORPORATE HOSPITALS

The firm has encompassed heterogenous physical, patient centered and organizational dimensions. The corporate hospitals by innovating is maintaining the competitive advantage. The organizations always strive to attain the customer needs, wants and demands where they can outreach their competition. Eventually, competitive environment always demands for innovation as desirable to maintain their position in the market. Strategic resources that provide a long-term competitive advantage are precious, scarce, difficult to duplicate, and non-replaceable. Knowledge and dynamic capabilities, such as the ability to innovate, are important

firm-specific resources that allow a company to establish core competencies and gain a competitive advantage in a fast-paced market.

During pandemic times, the revenue and the profits in hospitals have declined steeply because of irregular cash flows. The birth to several innovations has occurred in these pandemic times where hospitals are adopting new technologies, new processes and new systems to grow. Physicians and patients have gone digital. Teleconsultation is the new adaptable innovation where doctors and patients have acted together and showed trust towards each other for better services. About 90% of appointments are booked online. Hospitals have incorporated new medical devices like new bronchoscopic stimulation. Some hospitals have also incorporated robotic surgery unit, which uses tools to carry out the processes. Cardiology units have also increased in hospitals in covid era. They have also set up **teleconsultation** departments which helps patients to consult with the doctors effortlessly in this covid era avoiding physical contact. Statistical analysis shows the corporate hospitals getting better with the service providing for patients. Lower costs, affordable treatments and good service is the key to sustainable growth. Affordable treatments are still a huge achievement further. On the contrary, some hospitals have incorporated it within but yet to work on that. Some hospitals have set up a separate ECHMO units, which sustains the mechanical ventilation process in urgent care unit. Many remarkable changes have taken place pre and post covid including distinct new technologies and services.

INNOVATIONS IN OTHER SECTORS

Other sectors like infertility centres, vaccine manufacturing companies and nutraceutical companies have shown an exceptional change in their respective sectors.

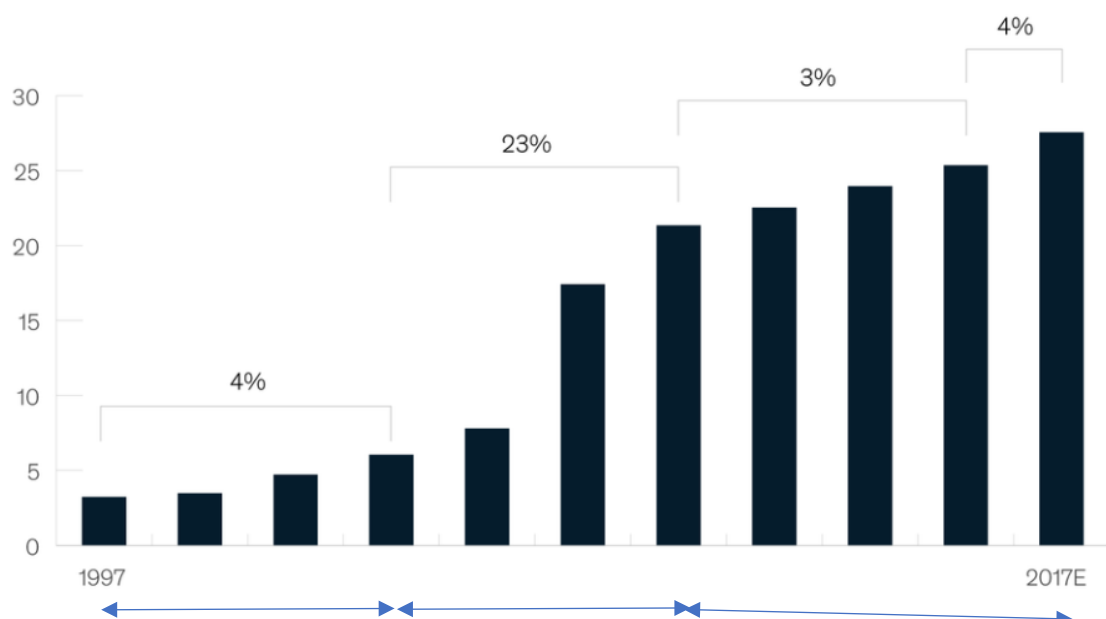
Infertility centres are using the **Vitrification** technique which generally involves the rapid freezing of eggs and embryos at very low temperatures. Vitrification is the fast freezing of eggs and embryos at $-15,000^{\circ}\text{C}$ in high concentrations. This is accomplished by freezing the cell in extremely small fluid volumes. This approach swiftly transforms the eggs or embryos into a "glass-like condition," reducing the risk of ice crystal formation. This has shown a successful pregnancy outcome. Many new techniques are also in offering for screening techniques for selecting most likely in pregnancy. Some technologies also include continually monitoring

evolution of embryo. It is helpful in detecting abnormal cell division and discarding embryos that are defective and can cause miscarriages. The technique is called “**Time lapse technology**”. Infertility centres have gone digital and also provides their specialised app which supports patients on their individual journey to pregnancy. For maximum patient convenience skype consultation is also used.

Vaccine manufacturing companies have also come up with many innovative processes. One is **Pentavalent vaccine** which is also called 5-in-1 vaccine. It gives protection against the deadly diseases. It is administered in children to prevent diptheria, pertussis, tetanus, hepatitis B and infection like pneumonia and meningitis. Vaccines for pneumococcus, rotavirus, human papillomavirus (HPV) and varicella have all seen a resurgence of invention in the last 20 years.

Below graph shows the global vaccine graph, where after a period of rapid growth vaccines have slowed in recent years.

Global vaccines sales, 1997-2017, \$ billion



As we can see from the graph, there are three sections divided in graph,

- First section tells about the growth drivers, global- channel penetration.
- Second section tells about, growth fuelled by innovation, blockbusters (eg. Pneumococcus conjugate, rotavirus and flu vaccine)
- Furthermore, it shows slowing growth stagnating adult-channel penetration and international growth.

Picture courtesy: Evaluate Pharma 2018, McKinsey Analysis

CONCLUSION

Innovation is the fuel of future. Healthcare sector innovates tremendously and needs to innovate to more extent to outweigh its competition and also to meet the requirements of people. There are many innovations which revolve around the healthcare that are patient-centred also sustainable in future. Learnings about product development and product innovations were given. The process of innovation in the industry I learnt thoroughly. The company's supply chain management as well digital marketing has been learned through. In addition to this, I learnt the more of sustainability and innovation of future.

There have been more of advancements in other sectors of healthcare like hospitals, infertility centres, Vaccine manufacturing companies, and nutraceutical companies. These companies have new innovations and also future innovations which helps patients and their customers. Hospitals have developed prone to pre & post pandemic era where digital technology have come into play. New medical devices and services have also been introduced.

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ANNEXURES:

Frame of queries for Product Managers, Supply Chain Heads, Marketing Managers, Customer Relationship Managers, Business Unit Heads, Strategic Managers, Group Product managers, Director or Head of Corporate Hospitals

- 1.What are the recent advances made in Marketing? What innovative strategies are you using to sustain the market?
- 3.Could you elaborate more on innovation in terms of your domain?
- 4.What basic strategies do you use for product innovation?
- 5.How you've managed to bring innovativeness in the products during this pandemic?
- 6.What Johnson & Johnson has adopted for product innovation strategies?
- 7.Does Johnson & Johnson use Nanotechnology?
- 8.Can you please elaborate on one of the product innovations of your company?
- 9.What are the advancements in the administrative sector in corporate hospital?
- 10.What are the new innovative initiatives taken?
- 11.What are the new technologies adopted in pre vs post pandemic?
- 12.What are the clinical changes taking place pre & post pandemic?
- 13.What is the new technology adopted in your hospital in these years

