**Life science Industry:-**

The Life Sciences industry refers to **all of the organizations and companies whose work is centred around research & development, Manufacturing, Marketing of products and services focused on living things** (animals, plants, human beings.)

The life sciences industry comprises companies operating in the research, development and manufacturing of pharmaceuticals, biotechnology-based food and medicines, medical devices, biomedical technologies, nutraceuticals, cosmeceuticals, food processing, and other products that improve the lives of organisms

***Examples are***

A .Companies operating in the research, development and manufacturing of pharmaceuticals,

b. Biotechnology-based food and medicines,

c. Medical devices,

d. Biomedical technologies,

e .Nutraceuticals,

f. Cosmeceuticals,

g. Food processing, and

h. other products that improve the lives of organisms.

***Pharmaceutical Industry***

The **pharmaceutical industry** is an industry in [medicine](https://en.wikipedia.org/wiki/Medicine) that discovers, develops, produces, and markets pharmaceutical [drugs](https://en.wikipedia.org/wiki/Drug) for use as [medications](https://en.wikipedia.org/wiki/Medication) to be administered to [patients](https://en.wikipedia.org/wiki/Patient) (or self-administered), with the aim to [cure](https://en.wikipedia.org/wiki/Cure) and [prevent](https://en.wikipedia.org/wiki/Preventive_healthcare) diseases, or alleviate [symptoms](https://en.wikipedia.org/wiki/Symptom).

[Pharmaceutical companies](https://en.wikipedia.org/wiki/List_of_pharmaceutical_companies) may deal in [generic](https://en.wikipedia.org/wiki/Generic_drug) or [brand](https://en.wikipedia.org/wiki/Brand) medications and medical devices. They are subject to a [variety of laws](https://en.wikipedia.org/wiki/Legal_drug_trade) and regulations that govern the [patenting](https://en.wikipedia.org/wiki/Patent), testing, safety, efficacy using drug testing and [marketing of drugs](https://en.wikipedia.org/wiki/Legal_drug_trade).

Indian Pharmaceutical Industry is third largest in terms of Volume and 13th largest in terms of value. Often hailed as the 'pharmacy of the world,' the Indian pharmaceutical industry is booming. The pharmaceutical industry in India is currently valued at $50 Bn. India is a major exporter of Pharmaceuticals, with over 200+ countries served by Indian pharma exports.

**Top 10 Pharma Companies By Market Cap In India**

* Sun Pharmaceutical Industries Ltd.
* Cipla Ltd.
* Dr Reddy's Laboratories Ltd.
* Mankind Pharma Ltd.
* Torrent Pharmaceuticals Ltd.
* Zydus Lifesciences Ltd.
* Lupin Ltd.
* Alkem Laboratories Ltd.

**Types of Pharmaceutical Companies**

In the pharmaceutical business, companies can be categorised into many types of Pharmaceutical Companies based on their primary focus and operations within the industry. Mentioned below are the different types of pharmaceutical companies:

**1. Prominent Pharmaceutical Firms**

In the realm of pharmaceuticals, we have prominent companies known for their extensive range of medications and healthcare offerings. These well-established entities, like Pfizer, house sizable research teams and operate numerous production facilities, enabling them to create and supply a wide assortment of pharmaceutical products.

**2. Research and Innovation-Centric Enterprises**

Smaller organization’s in the pharmaceutical sector are dedicated to research and development. They frequently partner with larger pharmaceutical companies to conduct clinical trials and play a role in the identification of novel drugs and treatment methods ultimately benefiting the society.

**3. Generic Drug Manufacturers**

Generic drug manufacturers play a crucial role in the pharmaceutical sector, particularly after the expiration of **drug patents**. These companies excel in the efficient mass production of generic medications. While they don’t prioritise extensive R&D, they specialize in providing cost-effective alternatives to patent-expired medicines.

**4. API Producers**

In the pharmaceutical arena, **Active Pharmaceutical Ingredient manufacturers** have a key role in crafting biomolecules, bulk compounds, and a range of Active Ingredients utilized by pharmaceutical producers. Furthermore, they engage in the manufacturing of serums, vaccines, and other healthcare goods, making substantial contributions to the pharmaceutical supply chain.

**5. Pharma Marketing and Distribution Companies**

Pharma marketing offers various avenues for individuals looking to venture into the pharmaceutical sector. Two notable options include establishing a marketing company or owning a pharma franchise distribution unit. The choice between these options depends on individual preferences, as both are potentially lucrative ventures. Notably, a pharma franchise enjoys substantial marketing support from its parent pharmaceutical company.

Pharma distribution plays a vital role in the pharmaceutical supply chain and encompasses various sub-categories, such as **stockist, wholesaler, distributor, and sub-stockist**

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**6. Pharma Retail Companies**

The pharma retail sector is among the many types of pharmaceutical companies that offers a diverse range of opportunities, including:

1. **Medical and Drug Stores, Pharmacy :** Retail outlets focused on offering medications and related healthcare products.
2. **Retail Stores for Medical Devices:** These stores specialise in providing medical devices and equipment.
3. **Retail Stores for Surgical Products:** Retailers in this category supply surgical and medical equipment.
4. **Cosmetic and Dietary Supplement Stores:** These stores cater to customers seeking cosmetic products and dietary supplements.

Various Departments in a Pharmaceuticals Organization:-

Below is a quick overview of the departments that are typically found within the company:

* **Production (Manufacturing)**
* **Quality**
* **Marketing**
* **Supply Chain Management.**
* **Research and Development**
* **Other**

**Production (Manufacturing)**

As mentioned above, pharmaceutical companies are essentially manufacturing companies. So, Production would have the highest portion of employment within the company. A typical percentage of total company employment is between 30% and 50% depending on the stage of the company.

The Production (Manufacturing) department deals with all stages of pharmaceutical product manufacture, from producing active ingredients through the completion of finished products (packaging).

The following is the breakdown of department activities:

***Upstream activities***

Upstream activities are the early stages of biopharmaceutical processing from cell bank until the cell culture process. There are certain target proteins as the output of the cell culture process.

***Downstream activities***

Downstream activities are the stages that include separation and purification to achieve the required drug substance.

***Fill Finish / Packaging***

This is the final stages of the manufacturing process when the active product is prepared to its final form, then being filled, and sealed within specific primary and secondary containers. Aseptic techniques and detailed labeling play critical roles in these activities.

**Quality**

Quality is the function within the company that monitors all production-related activities, ensuring that they meet standards and predefined expectations. Depending on the stage of the company, the quality unit can be up to 30% of total company employment.

The following is the breakdown of department activities:

***Quality Assurance***

This is the main function where the focus is to maintain predefined process standards and expectations. The main mindset that is sometimes missed is that quality assurance is supposed to be preventative by nature (“Right the First Time”), instead of corrective. Most of the time we got caught up in corrective mindset due to high number of errors.

***Quality Control***

It is the function within biopharmaceutical company where the focus is on ensuring the products are produced as designed by testing product samples and ensuring proper monitoring of the production area and utilities.

***Validation***

Some companies have Validation function separated from Quality. Validation is one of the key functions, especially in the early stage of the company, as this function creates an evidence trail showing a process and system that leads to a consistent result that can be reproduced throughout the life of the company.

***Regulatory Affairs***

This function deals with all the matters related to outside regulations that must be complied with before the company can sell their medicine to the public.

**Supply Chain Management in Pharmaceutical Industry:-**

A distribution channel comprises of Manufacturers , Wholesalers, Retailers and the Consumers. Manufacturers produce products and leave the selling activities to the wholesalers and retailers. The retailers act as a connecting link between the Suppliers with the Consumers. Retailers include both the business houses and the individuals. They help in the transfer of goods from the wholesalers or from the manufacturers directly to the consumers. The figure given below shows the distribution channel.

\****Figure showing the channel of Distribution***

**Manufacturer —--> Wholesaler —----> Retailer —-----> Final Consumer**

**Sales and Marketing in Pharmaceutical Industry:-**

**Sales and Marketing**both are closely related to each other.and are aimed to increase revenue of organisation. In small organisation there is not so much difference in sale and marketing but in big organisation there is lot of difference in sales and marketing and they have specialised people to handle both departments independently.

**SALES**  
A sale is agreement between seller and buyer of the particular money, goods and services.

**MARKETING**  
A Marketing refers to a activities a company undertakes to promote the buying and selling of a product or a service. Pharmaceutical marketing involves the actions to create a demand for goods and sales promotion . And pharmaceutical marketers use the elements of marketing mix which are 7Ps (Product, Place, Price, Promotion, Physical, People and Process) to meet and exceed the expectations of customers.

**DIFFERENCE BETWEEN SALES AND MARKETING**

* Marketing means generating leads or prospects and sales means converting leads or prospects into purchases and orders.
* Sales is a short term for finding customer and convert into exchange. where as marketing is a long term process of building a name or brand in market.
* Marketing is directly related to need of customer and sale is not related to customer need.
* Marketing is responsible for brand and promotion where as sale is not related to promotion of brand.

***Difference of Pharmaceuticals Selling AND FMCG Selling:-***

Pharmaceutical marketing deals with the supply or availability of drug or medicinal products used for diagnosis, prevention or treatment of specific medical conditions (Diseases). FMCG market deals with the supply or availability of consumer products of the routine use.

**THANK YOU**