

SUMMER TRAINING REPORT
ON
MARKET SIZING OF INDIAN INJECTABLE CONTAINER
MARKET BY VOLUME AND VALUE BY ANALYZING THE
DYNAMICS FROM INDIAN DOMESTIC & EXPORT
INJECTABLE DATA 2019-20
&
MARKETING ANALYTICS

SUBMITTED BY
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(2019-2021)



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CERTIFICATE



The certificate is awarded to
Vicky Jain

In recognition of having successfully completed his Internship in the department of
Competitive Intelligence

and has successfully completed his Project on
**Market sizing of Indian injectable container market by volume and value by
analyzing the dynamics from Indian domestic and export injectable data.**

starting from
**April 01, 2020 to May
31, 2020 at**

PharmaACE Analytics LLP

He comes across as a committed, sincere & diligent person who has a strong drive and
zeal for learning

We wish him all the best for future endeavors.

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ACKNOWLEDGEMENT

“It is difficult to make a report without the help and support of our kin.” On the very beginning of the report, I might want to introduce my genuine and sincere commitment towards all personages who helped me in this undertaking. Without their dynamic direction, help, collaboration, and consolation, I would not ready to progress in this SUMMER TRAINING REPORT & ONLINE COURSE REPORT.

I am extremely thankful and pay my gratitude to my Internship Mentor Ms. Arpita Bhasak for her valuable guidance and continuous support on the completion of this project in its presently. I am thankful to Company mentors Mr. Shubham Patil and Mr. Dinesh Pandey for their valuable guidance and giving enormous opportunity of learning.

I extend my gratitude to the Indian Institute of Health Management and Research University, Jaipur for giving me this opportunity.

Any exclusion in this short affirmation does not mean an absence of appreciation.

Thanking you,

Mr. Vicky Jain

Table of Contents

S.NO.	TITLE	PAGE NO.
1	INTRODUCTION OF TRAINING REPORT	1
2	COMPANY PROFILE	2
3	OBJECTIVE OF THE STUDY	3
4	LITERATURE REVIEW	3
5	RESEARCH METHODOLOGY	6
6	ANALYSIS/DATA INTERPRETATION	7
7	CONSIDERATION	16
8	KEY LEARNING	16
9	CONCLUSION	17
10	DESCRIPTION OF ONLINE COURSE	18
11	KEY OBJECTIVES	19
12	COURSE CONTENTS	19
13	LEARNING METHODOLOGY	20
14	KEY LEARNING	21
15	CONCLUSION	21
16	REFERNCES	22

PART I: SUMMER TRAINING REPORT

1. INTRODUCTION

The injectable medication delivery market to develop from USD 362.4 billion in 2016 to USD 624.5 billion by 2021, at a CAGR of 11.5% during the forecast time frame. The essential issue at risk for the improvement of this market are the extending usage of biologics, increase in the prevalence of incessant ailment, and the upsides of infusions (solace, ease of use, and decreased torture). These components have extended the enthusiasm for injectable gadgets, for instance, security needles, prefilled needles, and autoinjectors. The overall injectable Bundling and portions advertise has extended consistently and is required to create in the accompanying four years for instance 2019 to 2023. The overall injectable Bundling and parts publicize is maintained by various advancement drivers, for instance, combining clerical class in making economies, the rising segment of injectables in sedate pipeline, increase in threatening development rate, etc. The Indian pharmaceuticals promote is the third greatest to the extent volume and thirteenth greatest to the extent worth. It has developed itself as an overall collecting and assessment focus. An enormous rough material base and the availability of a talented workforce give the business a positive high ground. The Indian pharmaceutical industry is required to create at a CAGR of 22.4 percent to contact US\$ 55 billion by 2020. The Indian Pharmaceutical market is overpowered by regular drugs which builds up right around 70 percent of the market, however Over the Counter (OTC) prescriptions and secured meds make up to 21 percent and 9 percent independently. Creating focus on centered medicines and biologics, particularly around infection, is growing the necessity for nonexclusive injectable drugs. Biological injectable medications hold an eminent portion of the conventional injectable market. Selection of conventional injectables in little particles is foreseen to increase noteworthy footing. By and large, pioneers in the conventional injectable market are relied upon to have a wide portfolio and ease items, and nearby players will have really recognized contributions. To accomplish greater expense reserve funds, government social insurance offices are currently embracing higher use of conventional injectables in their administrations. Prefilled syringe cartridges are intended to fit into specific syringes, which are utilized to regulate different liquid prescriptions. These are utilized in the situation of standard syringe which experts must fill physically before each does is managed. The first prefilled syringe & cartridges were made of polypropylene. The upsides of prefilled syringe cartridges are their accommodation, moderateness, exactness, sterility, and safety.

2. COMPANY PROFILE

PharmaACE is a boutique global pharmaceutical consulting firm recognized for client first approach- assuring quality and customer satisfaction. It is founded in 2013, operates at the intersection of science, data, technology, and business strategy.

PharmaACE Analytics is an US-headquartered life sciences focused company that provides analytic and business solutions for the efficient commercialization of pharmaceutical products. The company has been employing professionals from top education institutes and individuals with excellent experience in the Analytics domain.

PharmaACE's headquarters is in Princeton, New Jersey. In India company is located at Pune, Maharashtra. Their consultants provide clients with innovative solutions based on deep industry insights, analytical expertise, and an unbiased perspective. Company focus on data analytics and modelling. Their technology experts not only create customized platforms and tools, but also work on data analytics, using Big data and machine learning. Their clients are established, multinational bio-pharmaceutical leaders and innovators, as well as entrepreneurial firms on the cutting edge of science.

Their Analytics & Consulting services include:

- Forecasting
- Sales analytics
- Competitive intelligence
- Business analytics
- Primary market research
- Consulting
- Training

3. OBJECTIVE OF STUDY

- a) To identify the type of containers used for injectable market with respect to molecules and their market volume & value.**
- b) To know the market volume & value of the injectable containers according to domestic and export market.**
- c) To identify the injectable molecules and their market volume & value.**
- d) To identify the molecules under segmentation of biologics, biosimilars & biologic generics.**

4. LITERATURE REVIEW

Packaging can be characterized as every one of those exercises related with planning, evaluating, and making the compartment for an item. The essential points of interest of Packaging incorporate insurance, identification, data against the physical harm, and interference of unwanted segments of the earth. Pharmaceutical Packaging is a practical method for introduction, recognizable proof safety, data, consistence, and item solidness. Pharmaceutical Packaging can be isolated into two: injectable medication Packaging and non-injectable medication Packaging. Injectable medications are more mind boggling than non-injectable medications and can without much of a stretch meddle with natural elements. Packaging of injectable medications ought to be done so that its segments ought not meddle with outside ecological variables. Injectable Packaging and parts items incorporate ampules, vials, cartridges and prefilled syringe, seals, etc [1]. Packaging is a developing science, a rising building discipline, and a triumph supporter of pharmaceutical businesses. Packaging can dwell, or report through innovative work (R and D), building, tasks, buying, promoting, or the general authoritative division of an administration. For most of items created in pharmaceutical ventures it is presumably the single biggest total buy made by an administration of materials basic to the assurance, delivery, and offer of the product [2]. The Indian pharmaceuticals advertise is the third biggest regarding volume and thirteenth biggest as far as worth. It has set up itself as a worldwide assembling and examination centre. A huge crude material base and the accessibility of a gifted workforce give the business a clear upper hand. The Indian pharmaceutical industry is required to develop at a CAGR of 22.4 percent to contact US\$ 55 billion by 2020. The Indian Pharmaceutical market is commanded by nonexclusive medications which comprises about 70 percent of the market, though Over the Counter (OTC) meds and protected medications make up to 21 percent and 9 percent respectively [3]. Out of

this Conventional segment, where India takes part, is of the size \$312 Billion. India's Pharma industry during 2018-19 has contacted \$40 Billion (residential and trades). India's Pharma sends out during 2018-19 was \$19.13 Billion including Mass medications, completed measurements details, Ayush and herbals and careful contributed 5.79% of Product trades. Medication details and Biologicals is the third biggest Head item being traded by India [4]. The business players, especially the huge ones, have rendered development by setting up auxiliary administrations and provincial workplaces or by assuming control over nearby administrations in different topographies. Many have additionally set up their assembling plants in created countries. This extension has permitted the Indian pharmaceutical industry to order a solid worldwide presence [5]. In 2018-19, top shippers from India's pharmaceutical items were USA (US\$ 119.18 million), Russia (US\$ 10.33 million), UK (US\$ 9.83 million), South Africa (US\$ 3.63 million) and Nigeria (US\$ 1.71 million). India is relied upon to rank among the main three pharmaceutical markets as far as gradual development by 2020[3].

The main considerations answerable for the development of this market are the expanding utilization of biologics, increment in the pervasiveness of interminable infections, and the advantages of injections. These elements have expanded the interest in devices, for example, safety syringes, prefilled syringes, and autoinjectors [6]. This is because of the expanding interest for successful and advantageous frameworks for tranquilize delivery by patients who depend on prescriptions day by day. Pre-filled syringes are the quickest developing section and are foreseen to hold the most noteworthy piece of the overall industry by 2026[7]. The worldwide injectable Packaging and parts showcase has expanded throughout the years and is relied upon to develop in the following four years for example 2019 to 2023. The worldwide injectable Packaging and parts showcase is bolstered by different development drivers, for example, combining working class in creating economies, the rising portion of injectables in medicate pipeline, increment in malignancy frequency, and so on. West Pharmaceutical Administrations, Inc., Gerresheimer AG, Ypsomed Gathering, and Datwyler Holding Inc. are a portion of the key players working in the worldwide injectable Packaging and segment market [1].

Disparities in the flexibly request of different medications have impacted market players to concentrate on growing their assembling and appropriation abilities. Patients are inclining toward self-drug administration, for example, pre-filled syringes to stay away from parental caregiver charges. Together, these exercises are offering ripe ground for nonexclusive injectable makers. Developing spotlight on focused treatments and biologics, especially around malignancy, is expanding the requirement for conventional injectable medications. Natural

injectable medications hold an eminent portion of the conventional injectable market. Selection of nonexclusive injectables in little particles is foreseen to increase critical footing. In general, pioneers in the conventional injectable market are relied upon to have a wide portfolio and minimal effort items, and neighbourhood players will have genuinely recognized contributions. To accomplish greater expense investment funds, government social insurance offices are currently receiving higher use of conventional injectables in their administrations. Key producers in the nonexclusive injectable market, for example, Pfizer Inc., Novartis AG, Teva Pharmaceutical Ventures Ltd., and Sanofi S.A. are focusing on in biologic and natural business extensions techniques by going into mergers, deals understandings, administrations, and creation associations with nearby makes from creating economies. Given their higher biosimilar abilities and money saving advantages over marked injectable medications, interest for monoclonal antibodies (mAbs) remains on in the nonexclusive injectable market. Getting around a fourth of in general market esteem, makers incline toward mAb drugs for rewarding different ceaseless issues, including malignant growth and other immune system ailments. Market players are therefore driving advancements in the turn of events and delivery of immunizations. Considering item, the conventional injectable market is divided into monoclonal antibodies, immunoglobulin, cytokines, insulin, peptide hormones, blood factors, peptide anti-microbials, immunizations, little particle anti-infection agents, chemotherapy specialists, and others. In view of utilization, the conventional injectable market is portioned into oncology, irresistible maladies, diabetes, blood issues, hormonal issues, musculoskeletal issues, CNS infections, torment the executives, and cardiovascular ailments. In view of course of administration, the nonexclusive injectable market is fragmented into intravenous (IV), intramuscular (IM), and subcutaneous (SC) [8]. Prefilled syringe cartridges are intended to fit into specific syringes, which are utilized to oversee different liquid prescriptions. The first prefilled syringe cartridges were made of polypropylene. The benefits of prefilled syringe cartridges are their accommodation, reasonableness, precision, sterility, and wellbeing. Parenteral administration of pharmaceutical items is one of the most well-known techniques used to create fast beginning of activity and 100% bioavailability. Primary issue happens with the parenteral medication delivery is absence of accommodation, reasonableness, exactness, sterility, safety and so forth. Such disadvantages with this delivery framework make it less good. Thus, all the drawbacks of these frameworks can be effectively overwhelmed by utilization of prefilled syringes [9].

5. RESEARCH METHODOLOGY

❖ **Sample Design- Qualitative & Quantitative research approaches were taken.**

1) Qualitative Approaches:

- a) Data Cleaning
- b) Data Tagging
- c) Harmonization

2) Quantitative Approaches:

- a) Volume and projected Volume calculation.
- b) Unit rate in INR and USD calculation
- c) Value of product.

❖ **Data Collection Method- Primary data were received from the company.**

❖ **Duration- 2 Months**

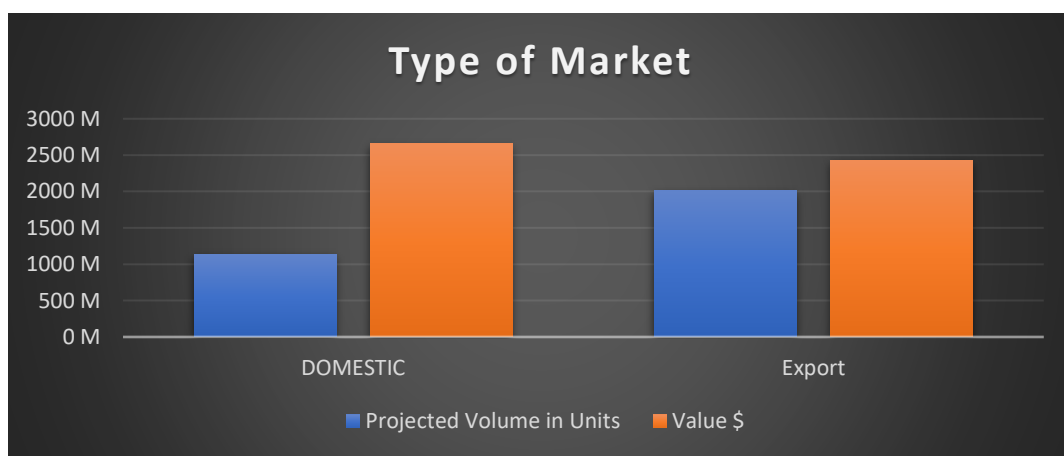
❖ **Software Tools used: MS Excel, MySQL**

6. ANALYSIS/DATA INTERPRETATION

6.1 Analysis of injectable container in export and domestic market and their volume.

Type of Market	Projected Volume in Units	Value in \$
DOMESTIC	1137 M	2654 M
Export	2010 M	2431 M
Grand Total	3148 M	5084 M

Table 1 1: Type of markets and their projected volume and value



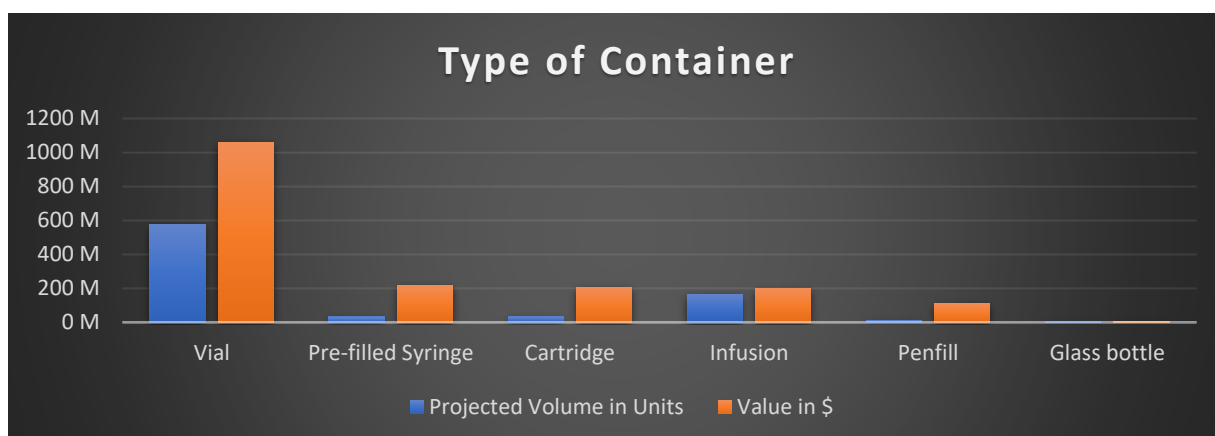
Graph 1 1: Type of markets and their projected volume and value

Bar chart 1 1 shows the examination between the kinds of market of injectable containers markets which incorporates export and domestic fragment. The export rate is 65% when contrasted with domestic which is 35% with an anticipated volume of approx. 2 billion units and 1 billion units, respectively. It obviously shows that all out injectable containers market volume is 3.2 billion units in 2019-20. India is the greatest exporter on the planet for generics and one of the top exporters of drugs in the worldwide.

6.2 Analysis of type of injectable container and their volume.

Type of Containers	Projected Volume in Units	Value in \$
Vial	576 M	1060 M
Pre-filled Syringe	32 M	219 M
Cartridge	33 M	207 M
Infusion	165 M	198 M
Pen-fill	12 M	114 M
Glass bottle	4 M	6 M

Table 1 2: Type of containers used in injectable market and their projected volume.



Graph 1 2: Type of containers used in injectable market and their projected volume.

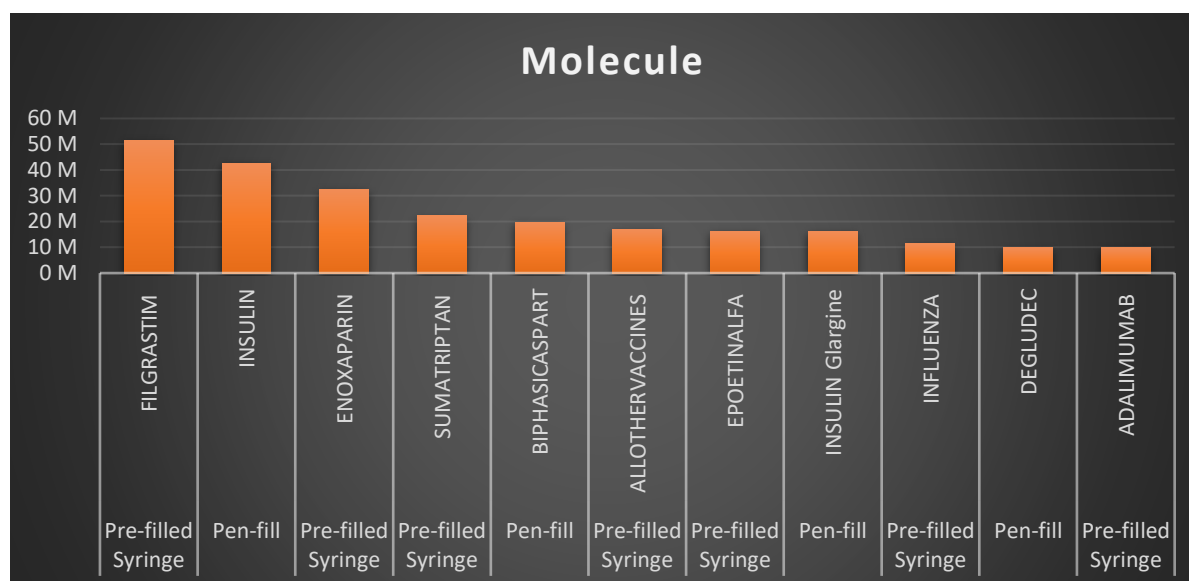
Vials are little jugs or holders produced using either plastic or glass. They are utilized to store drugs in fluid structure, and they can even store powders or tablets [10]. Pen-fill market is developing quickly. For instance: NovoLog Pen Fill is a quick acting insulin that begins to work around 15 minutes after infusion, tops in around 60 minutes, and continues working for 2 to 4 hours [11]. There are more than 20 pharmaceutical administrations fabricating prefilled syringes as favoured delivery gadget for at any rate 50 injectables medications and immunizations that have complete joined yearly deals of approx. US \$500[9]. For example, multi-use pens or pen injectors request cartridge innovation that is unsurprising and safe, with tight dimensional resilience's, and that might be appropriate for high-consistency drugs and different stockpiling conditions [12][13]. Chart 1 2 portrays the market volume of the kind of containers utilized in injectable market. The market of vial is most extreme followed by infusion while it is seen that cartridge, pre-filled syringe, pen-fill, and glass bottles are just around 1-2% of the absolute anticipated volume and value. The anticipated volume of vial is more than 570 million units and infusion are more than 165 million units. The cartridge, pre-filled syringe, and pen-fill anticipated volume is between 32 to 4 million units. The market value of vials is more than \$1 billion.

6.3 Pre-filled syringe and Pen-fill injectable container's molecules and their market volume.

Type of material	Molecule	Value in \$
Pre-filled Syringe	FILGRASTIM	51 M
Pen-fill	INSULIN	43 M
Pre-filled Syringe	ENOXAPARIN	33 M
Pre-filled Syringe	SUMATRIPTAN	22 M
Pen-fill	BIPHASICASPART	20 M

Pre-filled Syringe	ALLOTHERVACCINES	17 M
Pre-filled Syringe	EPOETINALFA	16 M
Pen-fill	INSULIN Glargine	16 M
Pre-filled Syringe	INFLUENZA	12 M
Pen-fill	DEGLUDEC	10 M
Pre-filled Syringe	ADALIMUMAB	10 M

Table 1 3: Pen-fill & Pre-filled syringe containing top molecule and their market volume.



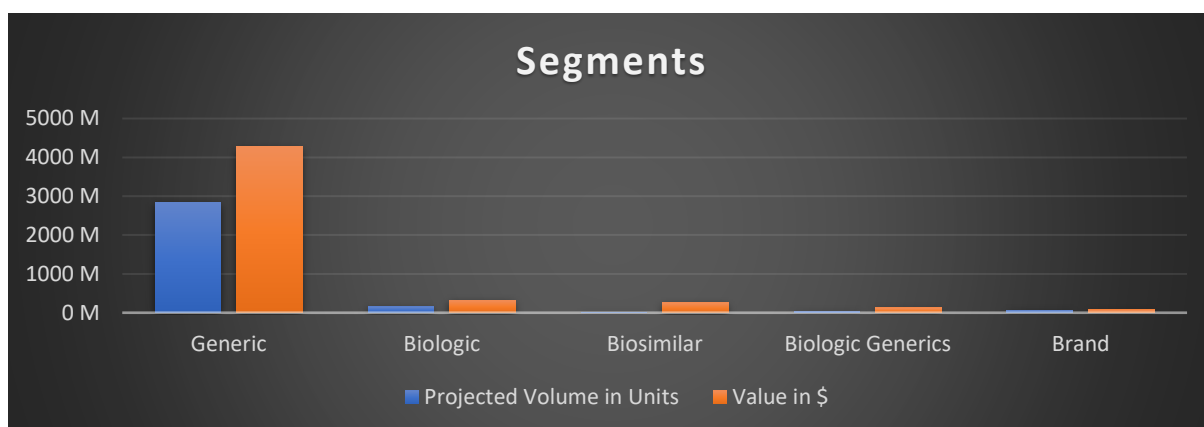
Graph 1 3: Pen-fill & Pre-filled syringe containing top molecule and their market volume.

The injectable materials like Pen-fill and pre-filled syringes are developing markets and developing tremendously year by year. Their demands are altogether expanded. Bar chart 1 3 shows Insulin are generally pressed as pen-fill and Filgrastim as pre-filled syringe with market value of \$43 & \$51 million, respectively.

6.4 Injectable container market segments and their volume & value.

Segments	Projected Volume	Value in \$
Generic	2847 M	4281 M
Biologic	157 M	321 M
Biosimilar	13 M	260 M
Biologic Generics	43 M	129 M
Brand	70 M	75 M

Table 1 4: Injectable market segments into biologics/biosimilars/generics/brand.



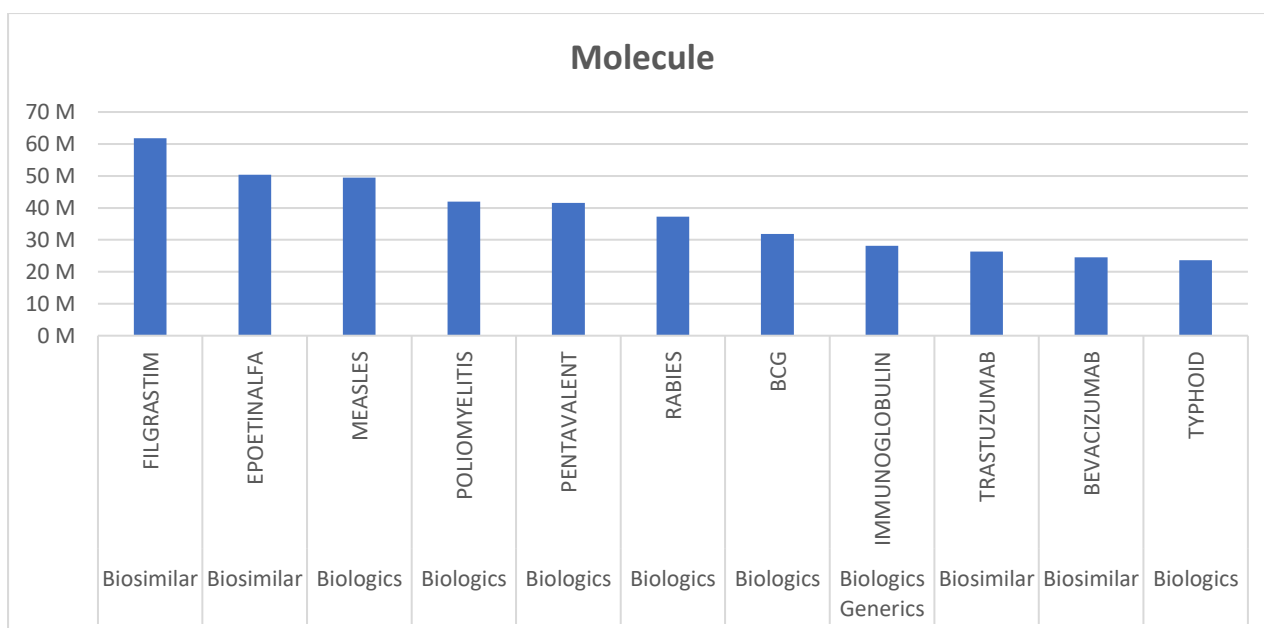
Graph 1 4: Injectable market segments into biologics/biosimilars/generics/brand.

The conventional injectables advertise, side-effect type is classified into monoclonal antibodies, cytokines, insulin, immunizations, and others [14]. Graph 1 4 represents the market anticipated volume & value information of biosimilars, biologics, generics, or brands fares of injectable containers market. The main division is Generics (approx. 90%) having volume of 3 billion units and value of \$4281 million is seen as sent out the most followed by the biologics. While the interest in brands and biologic generics are expanding from earlier years. The anticipated volume biologics, brands and biologic generics is between 150 million to 100 million units. Biologics and biosimilars market value are \$321 and \$260 million, respectively.

6.5 Injectable container market segmentation according to biologic & biosimilar.

Segments	Molecules	Value in \$
Biosimilar	FILGRASTIM	62 M
Biosimilar	EPOETINALFA	50 M
Biologics	MEASLES VACCINE	49 M
Biologics	POLIOMYELITIS VACCINE	42 M
Biologics	PENTAVALENT VACCINE	42 M
Biologics	RABIES VACCINE	37 M
Biologics	BCG VACCINE	32 M
Biologics Generics	IMMUNOGLOBULIN	28 M
Biosimilar	TRASTUZUMAB	26 M
Biosimilar	BEVACIZUMAB	24 M
Biologics	TYPHOID VACCINE	24 M

Table 1 5: Market segmentation of top molecule and their market volume & value.



Graph 1 5: Market segmentation of top molecule and their market volume & value.

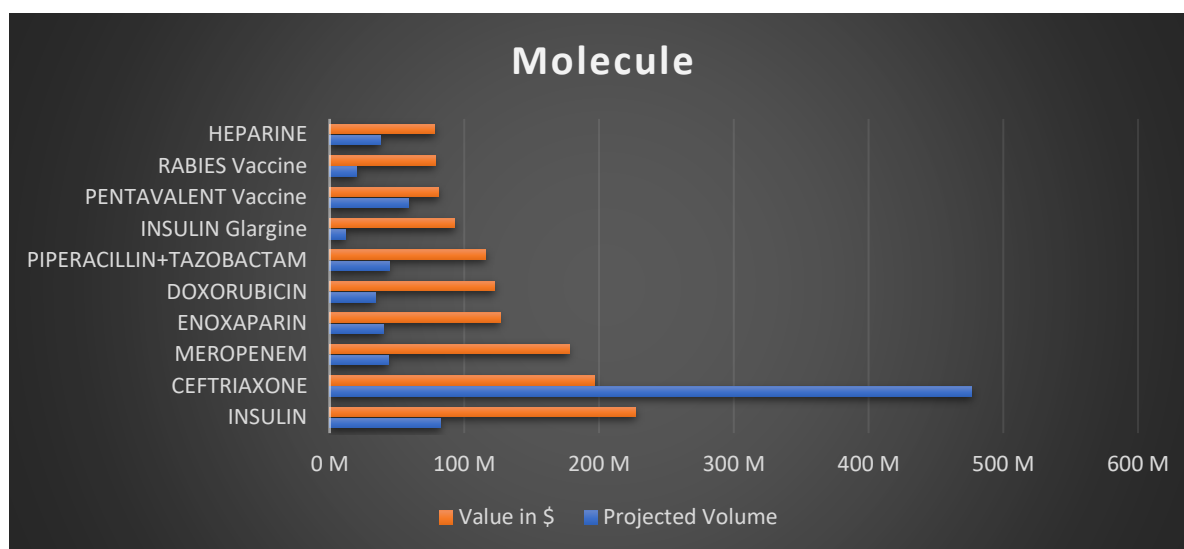
A biologic medication (biologics) is an item that is delivered from living life forms or contain parts of living life forms. Biologic medications incorporate a wide assortment of items got from human, creature, or microorganisms by utilizing biotechnology. Sorts of biologic prescriptions join inoculations, blood, blood parts, cells, allergens, quality, tissues, and recombinant proteins. Biologic drugs are sometimes suggested as biologic response modifiers since they change the method of action of normal biologic intracellular and cell activities [15]. Biologics join a wide arrangement of things, for instance, quality and cell medicines, accommodating proteins, monoclonal antibodies, and inoculations. Biosimilars are significantly similar to the reference thing with respect to wellbeing, flawlessness, and quality, yet may have minor complexities in clinically inactive parts [16]. The graph 1 5 portrays that Biosimilar’s Filgrastim have highest market value of \$62 million then after Epoetin alfa have \$50 million value. Biologic’s measles immunization having most noteworthy market value of \$49 million. Biologic generic’s immunoglobulin having most elevated market value of \$28 million.

6.6 Injectable containers molecule with highest market volume & value.

Molecule	Projected Volume in Units	Value in \$
INSULIN	82 M	227 M
CEFTRIAZONE	477 M	197 M
MEROPENEM	44 M	178 M
ENOXAPARIN	40 M	127 M
DOXORUBICIN	34 M	123 M

PIPERACILLIN	44 M	116 M
INSULIN Glargine	11 M	93 M
PENTAVALENT Vaccine	59 M	81 M
RABIES Vaccine	20 M	79 M
HEPARINE	37 M	78 M

Table 1 6: Top injectable molecule with their projected volume & value market 2019-20.



Graph 1 6: Top injectable molecule with their projected volume & value market 2019-20.

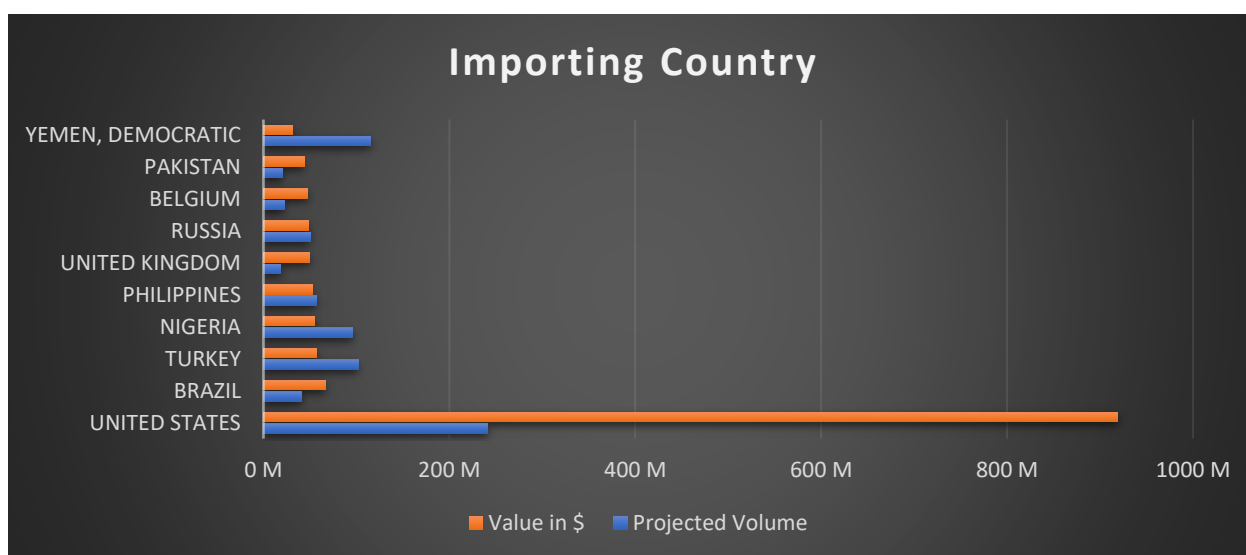
All around, Indian pharma has added to improve general wellbeing results. India represents 60 percent of worldwide immunization creation, contributing 40 to 70 percent of the WHO interest for Diphtheria, Lockjaw and Pertussis (DPT) and Bacillus Calmette–Guerin (BCG) antibodies, and 90 percent of the WHO interest for the measles immunization [17]. In view of utilization, the nonexclusive injectables advertise is sectioned oncology, sedation, hostile to infectives, parenteral sustenance, cardiovascular, and others [14]. The table 1 6 records alongside a graphical portrayal of the deals of molecules, Insulin is the top selling drugs with market value of \$227 million. The molecule ceftriaxone is the most elevated. Though Pantoprazole, Sodium chloride, Pentavalent, Hepatitis and Ciprofloxacin are top sought after while Ketorolac, Vancomycin, DT, Midazolam and Pentazocine are profoundly popular. The anticipated volume of ceftriaxone is more than 447 million units. India immunization showcase is approx. 50 % of complete worldwide market.

6.7 Country importing injectable container from India.

Importing Country	Projected Volume in Units	Value in \$
UNITED STATES	241 M	919 M
BRAZIL	41 M	66 M

TURKEY	102 M	58 M
NIGERIA	96 M	55 M
PHILIPPINES	57 M	52 M
UNITED KINGDOM	19 M	50 M
RUSSIA	50 M	49 M
BELGIUM	22 M	48 M
PAKISTAN	20 M	44 M
YEMEN, DEMOCRATIC	115 M	31 M

Table 1 7: Injectable material exported to country with their volume & value.



Graph 1 7: Injectable material exported to country with their volume& value.

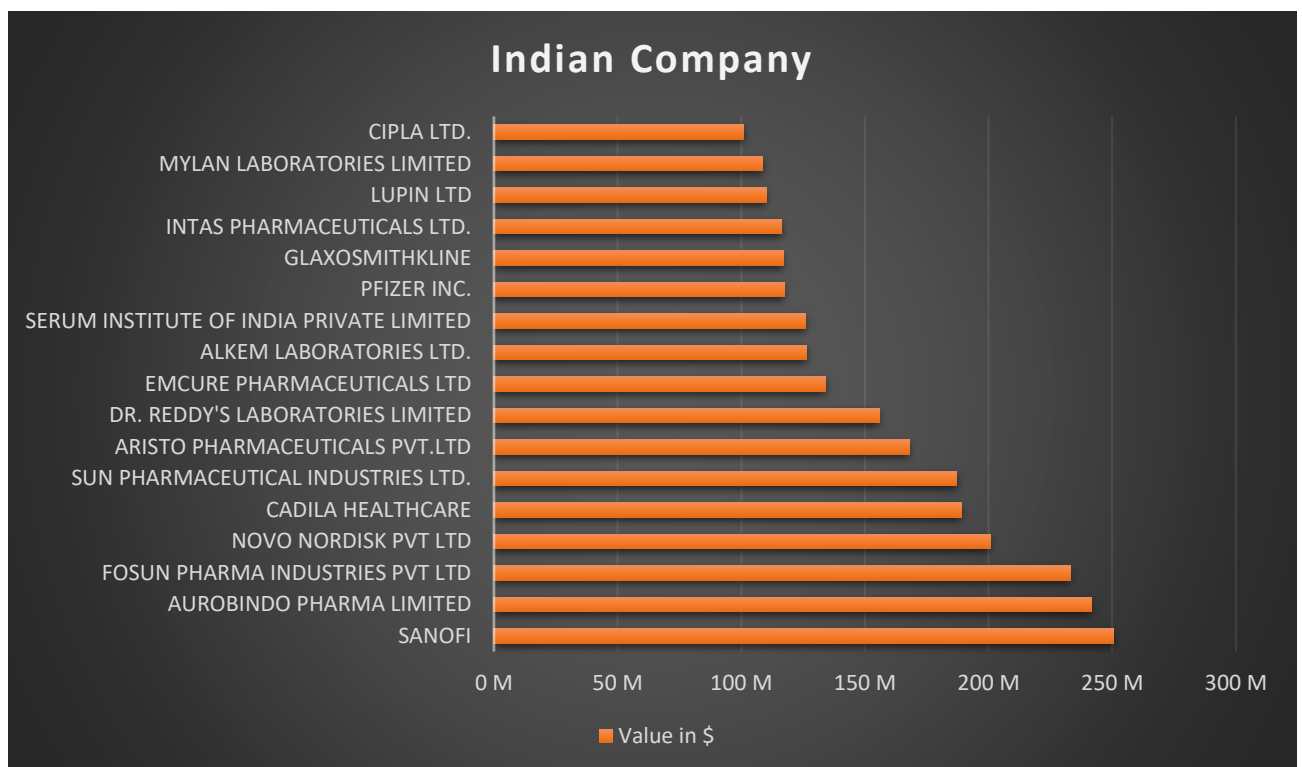
The table 1 7 represents to the top nations where India significantly sends out its market of injectable materials. The biggest shipper is the US with the market volume of approx. 241 million units and \$919 million market value. Brazil, Yemen, Nigeria, and Turkey are other huge shippers of Indian items. The US is most elevated merchant of injectable container showcase from India.

6.8 Indian company's injectable container market volume and value.

Indian Company	Projected Volume in Units	Value in \$
SANOFI	36 M	251 M
AUROBINDO PHARMA LIMITED	34 M	242 M
FOSUN PHARMA INDUSTRIES PVT LTD	123 M	233 M
NOVO NORDISK PVT LTD	49 M	201 M
CADILA HEALTHCARE	82 M	189 M
SUN PHARMACEUTICAL INDUSTRIES LTD.	41 M	187 M

ARISTO PHARMACEUTICALS PVT.LTD	181 M	168 M
DR. REDDY'S LABORATORIES LIMITED	37 M	156 M
EMCURE PHARMACEUTICALS LTD	40 M	134 M
ALKEM LABORATORIES LTD.	119 M	127 M
SERUM INSTITUTE OF INDIA PRIVATE LIMITED	96 M	126 M
PFIZER INC.	29 M	117 M
GLAXOSMITHKLINE	14 M	117 M
INTAS PHARMACEUTICALS LTD.	42 M	116 M
LUPIN LTD	40 M	110 M
MYLAN LABORATORIES LIMITED	23 M	109 M
CIPLA LTD.	47 M	101 M

Table 1 8: Company selling injectable material with their volume and value.



Graph 1 8: Company selling injectable material with their volume and value

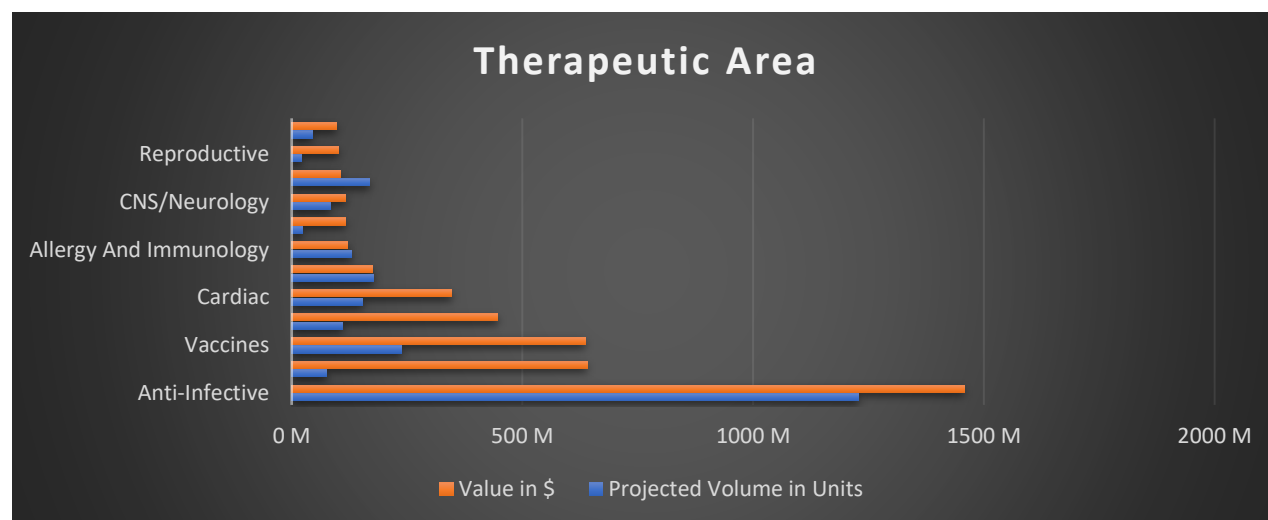
The graph 1 8 represents the quantity of Pharmaceutical firms which trades their medicines to various nations. The top administration to trade its injectable containers is Sanofi with the value of \$251 million. Aristo Pharmaceuticals have highest market volume of 181 million units. Aurbindo, Fosun Pharma, Novo Nordisk, Alkem, Serum Institute, Cadila, Zydus are the top

selling administrations of injectable container markets of each between \$225 to \$125 million market value.

6.9 Analysis of therapeutic area and their market value and volume.

Therapeutic Area	Projected Volume in Units	Value in \$
Anti-Infective	1229 M	1457 M
Anti-Neoplastic	76 M	640 M
Vaccines	238 M	636 M
Anti-Diabetic	110 M	447 M
Cardiac	154 M	346 M
Pain /Analgesics	178 M	176 M
Allergy and Immunology	130 M	122 M
Blood related	23 M	117 M
CNS/Neurology	84 M	117 M
Gastrointestinal/Anti-Ulcer	169 M	105 M
Reproductive	21 M	102 M
Gastrointestinal	45 M	98 M

Table 1 9: Therapeutic area and their market value and volume.



Graph 1 9: Therapeutic area and their market value and volume.

The graph and table 1 9 depict that injectable's therapeutic area are majorly distributed in anti-infective market with \$1457 million. Anti-neoplastic, vaccines, anti-diabetic & cardiovascular drugs are highly distributed in the market of export and domestic. Anti-neoplastic share the highest market volume with 1229 million units. Vaccines are majorly sharing the market volume with 238 million units.

7. CONSIDERATION

7.1 Exclusion:

- Plastic containers are excluded from the market.
- Ampoules are not included into the market
- Large volume parenteral are also excluded.
- Not included the products of Amanta Pharmaceuticals products.

7.2 Inclusion:

- In type of materials, injection (whose product description cannot be identified) may be vials, pen-fills, pre-filled syringes, glass bottles, infusions, or cartridges.
- Projected volume is derived from unmapped item products volume by dividing it by total volume and adding one i.e. 1.39.
- All mAbs are considered as biologic
- All Vaccines are considered as biologic except Anti Serum / IGG

8. KEY LEARNING

Working on live project provides access of open corporate environment which offers following key learning:

- a) Learning of working in live project according to the client requirements.**
- b) Adhering to the timeline.**
- c) Dashboard preparation**
- d) Learning of MS Excel and SQL tools.**
- e) Knowledge of injectable market.**
- f) Knowledge of containers market used for injection**

9. CONCLUSION

The export rate is 65% when contrasted with domestic which is 35% with an anticipated volume of approx. 2 billion units and 1 billion units, respectively. It obviously shows that all together injectable containers market volume is 3.2 billion units in 2019-20. India is the greatest exporter on the planet for generics and one of the top exporters of drugs in the worldwide. The market of vial is most extreme followed by infusion while it is seen that cartridge, pre-filled syringe, pen-fill, and glass bottles are just around 1-2% of the absolute

anticipated volume and value. The anticipated volume of vial is more than 570 million units and infusion are more than 165 million units. The cartridge, pre-filled syringe, and pen-fill anticipated volume is between 32 to 4 million units. The market value of vials is more than \$1 billion. Insulin are generally pressed as pen-fill and Filgrastim as pre-filled syringe with market value of \$43 & \$51 million, respectively. The main division is Generics (approx. 90%) having volume of 3 billion units and value of \$4281 million is seen as sent out the most followed by the biologics. While the interest in brands and biologic generics are expanding from earlier years. The anticipated volume biologics, brands and biologic generics is between 150 million to 100 million units. Biologics and biosimilars market value are \$321 and \$260 million, respectively. Biosimilar's Filgrastim have highest market value of \$62 million then after Epoetin alfa have \$50 million value. Biologic's measles immunization having most noteworthy market value of \$49 million. Biologic generic's immunoglobulin having most elevated market value of \$28 million. Insulin is the top selling drugs with market value of \$227 million. The molecule ceftriaxone is the most elevated. Though Pantoprazole, Sodium chloride, Pentavalent, Hepatitis and Ciprofloxacin are top sought after while Ketorolac, Vancomycin, DT, Midazolam and Pentazocine are profoundly popular. The anticipated volume of ceftriaxone is more than 447 million units. India immunization showcase is approx. 50 % of complete worldwide market. The biggest shipper is the US with the market volume of approx. 241 million units and \$919 million market value. Brazil, Yemen, Nigeria, and Turkey are other huge shippers of Indian items. The US is most elevated merchant of injectable container showcase from India. The top administration to trade its injectable containers is Sanofi with the value of \$251 million. Aristo Pharmaceuticals have highest market volume of 181 million units. Aurbindo, Fosun Pharma, Novo Nordisk, Alkem, Serum Institute, Cadila, Zydus are the top selling administrations of injectable container markets of each between \$225 to \$125 million market value. Injectable's therapeutic area are majorly distributed in anti-infective market with \$1457 million. Anti-neoplastic, vaccines, anti-diabetic & cardiovascular drugs are highly distributed in the market of export and domestic. Anti-neoplastic share the highest market volume with 1229 million units. Vaccines are majorly sharing the market volume with 238 million units.

PART II: ONLINE COURSE REPORT

1. COURSE DESCRIPTION:

Marketing Analytics conducted by the Darden School of Business at the University of Virginia, gives the tools to measure brand and customer assets, understand regression analysis, and design experiments to evaluate and optimize marketing campaigns. The course focuses on a solid understanding to use marketing analytics to predict outcomes and systematically allocate resources.

Marketing Analytics empowers advertisers to gauge, oversee and examine displaying execution to grow its reasonability and smooth out quantifiable benefit (return for capital invested). Past the evident arrangements and lead age applications, advancing assessment can offer huge bits of information into customer tendencies and examples, which can be furthermore utilized for future displaying and business decisions.

The course gives a thorough showcasing involvement with fathoming a genuine promoting issue for a customer. The experience comprises of leading a client bits of knowledge venture, making a division plan, and composing different showcasing plans to assist the customer with their business issue in promoting. The course permits understudies to incorporate their procured involvement with picking up client bits of knowledge through showcasing research alongside their insight in center promoting concepts. It gives a definite instructing to utilize probabilistic models and streamlining apparatuses to display client request estimates, evaluating affectability, Lifetime Value and to use such information to settle on ideal choices on planning new items, advertising division and procedure.

2. KEY OBJECTIVES:

- It causes with the figuring out how to fabricate and characterize a brand engineering and to quantify the effect of promoting endeavours on brand an incentive after some time.
- To measure client lifetime worth and utilize that data to assess vital promoting elective
- To plan fundamental examinations with the goal that you can evaluate your advertising endeavours and contribute your showcasing dollars most viably.
- To set up regressions, interpret outputs, explore confounding effects and biases, and distinguish between economic and statistical significance.

3. COURSE CONTENTS:

- **The Marketing Process:** The chapter cover Marketing Fundamentals, Product, Pricing and Channel Decisions, Building Strong Brands and Communication Strategy
- **Metrics for Measuring Brand Assets:** This module gives the tools to measure brand and customer assets, understand regression analysis, and design experiments to evaluate and optimize marketing campaigns.
- **Customer Lifetime Value:** This module shows the financial variables behind valuing dependent on cost and the upsides and downsides of a cost-based estimating approach. It instructs to compute three sorts of value versatilities to decide the effect of cost on request. Break down and apply distinctive estimating models cost-in addition to estimating, Peripheral expense in addition to evaluating, Pinnacle load valuing, File based evaluating and assess the effect of channel delegates and client lifetime esteem on valuing.
- **Marketing Experiments:** This module explores to design basic experiments so that it can assess marketing efforts and invest marketing dollars most effectively. It helps to avoid a gap between test results and field implementation and explore web experiments that can be implemented cheaply and quickly.
- **Regression Basics:** This chapter help to describe regressions, the tools which are used in marketing. And interpret integration outputs in marketing and regression allows to understand customer behavior and connect them to business and marketing decisions.

4. LEARNING METHODOLOGY:

The course combines relevant theoretical material with a selection of applied cases. Usually the lecture use assigned readings as a starting point to investigate selected topics in greater detail. There is a variety of handouts and cases that students must prepare for each class.

Marketing Analytics course offers great deal of learning in the field of global healthcare quality through a well-designed and planned course structure. To maximize the learning the course provides knowledge and field experience of various top healthcare professionals through one and one interaction of the course instructor with these professionals, captured and later shared with the students in the form of videos.

- Main source of learning are pre-recorded videos on various topics related to the course of Marketing Analytics.
- Each module contains minimum three quiz and are mandate with maximum 80% passing grades for the evaluation criteria.
- At the end of module, submission of assignments helps to build the clear concept and a better understanding of the module.
- Discussion Forums – one of the most attractive part of this course where the viewpoints can be shared, different topics can be debated related to a particular module and get to gain some extra knowledge through the views and ideas shared by other students.
- Readings – At the end of each chapter reading sources have been shared to enhance our learning experience.
- Summary – After completion of each chapter it helps to recapitulate the important points discussed during that session and provides a condensed format by mentioning the key learnings of every topic.

5. KEY LEARNING FROM THE COURSE:

- Helps with the learning to view marketing phenomena and processes in ways that are amenable to quantitative analysis.
- Expose to several examples of the successful use of marketing analytics.
- Demand forecasting using customer-base models and statistical approaches
- Market segmentation methods and best practices for identifying potential customer segments and focused targeting.
- Computation of Customer Lifetime Value for analysing customer, brand loyalty and forecasting revenue in the short and long run
- Factors to consider while designing and introducing new products to the market
- Calculating Optimal Pricing for products and services to get the best ROI
- Assessing Marketing ROI for making better and data-driven decisions.

6. CONCLUSION:

The purpose of the Marketing Analytics course is testament to the reality of the skills gap, which the management students must know for higher quality problem solving. Imparting the knowledge on industry activity. Experimental learning theory and marketing analytics offers their framework in hopes that the experiences and results described were useful to address pedagogical goals in the marketing curriculum.

The session also enlightens the crucial role of research in understanding customer insights and shaping marketing strategies. Customer insights through a client-bases projects, identification of benefits and challenges of market research. It is an extensive study, conducted to understand the marketing analytics tool and its importance in prediction and potential of this line of business that are available in the session.

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