CHAPTER 2

RESEARCH METHODOLOGY AND THEORETICAL FRAMEWORK OF RESEARCH
Indian manufacturing sector has contributed immensely to Indian economy. After opening up of economy, it has undergone a considerable growth trajectory providing employment and strengthening the agriculture and services sector. Indian manufacturing sector is classified into automotive components/engineering, chemicals, petroleum, fertilizers, packaging, electrical, electronics, IT hardware and peripherals, basic metals, textiles and other products. The Manufacturing; value added (% of GDP) in India was last reported at 13.89 in 2011, according to a World Bank report published in 2012. Manufacturing refers to industries belonging to ISIC divisions 15-37. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources.

Manufacturing companies from across the world see India as a great potential having required skill set in people, process, engineering and technology. This has resulted in India being developed as a hub for worldwide operations. India has a wide domestic market and availability of low cost skilled workforce, which has been instrumental in attracting all the major multinational companies for setting their manufacturing base in India. A large number of manufacturing assembly jobs that require low skills have moved from USA and Western Europe to developing countries like India.

2.1 Needs of KM in Manufacturing Industry

In today’s knowledge era knowledge management is well recognized in an effective manner in manufacturing industries. Companies are spending a high amount on hiring knowledge workers and managing their knowledge. The relevance of an appropriate management of corporate knowledge is rapidly increasing in modern manufacturing. Knowledge of a modern manufacturing enterprise often represents its highest value. Knowledge management discipline is more popular in manufacturing industry in comparison to other industries. Reason is the tacit nature of knowledge management. Tacit knowledge is hard to manage and store. But in manufacturing companies it’s much simple because we can teach easily a person how to make a product
like- biscuits in comparison to teach how to write a report or a research paper. There is still, however, a clear need to further reinforce applications of KM methods & tools by effectively solving fundamental and specific problems related to KM practice in manufacturing industry.

Knowledge sharing within an enterprise is related to a number of fundamental and specific problems such as acceptance by employees and motivation issues, problems, correlation of different types of knowledge, treatment of experience based and often incomplete and/or ill-structured knowledge etc. Management of tacit knowledge including its capturing, maintenance and sharing over different areas is still not efficiently solved in industrial practice. The problem in manufacturing companies very often is that the knowledge is available, but it is not used either because it is not well structured, or because employees are not aware of its existence or trained to properly use it in their daily work.

The research tittle of the present study is “An evaluation of KMP in Indian corporate sector”, which shows that study is based mainly on manufacturing units therefore; nine manufacturing companies were selected for this study. Research methodology for the same is given below-

2.2 Research Methodology

Research methodology is a way to systematically solve the problem. Research Design of the present study is Exploratory-cum-Descriptive. Exploratory because it concentrates on gaining preliminary insights and ideas from experts through research papers, books, articles. It is also descriptive in nature because it throws light on existing status of Knowledge Management Practices in IMC’S, opportunities available in working with KM, and challenges prevailing in Knowledge Management. This section is further divided into seven parts as given below-
2.2.1 Problem Area

This study gives an overview of knowledge management practices in Indian manufacturing companies and examines the perceived opportunities and possible challenges of a particular KMS in manufacturing companies in India.

2.2.2 Objectives of Research

The following objectives have been set to conduct the present study:

- To study the existing status of knowledge management in selected large manufacturing companies in Haryana.
- To find out the various knowledge management practices adopted by these manufacturing companies in Haryana.
- To study the technology uses in knowledge sharing in the selected large manufacturing companies in Haryana.
- To study the challenges faced by the companies in knowledge management in selected large manufacturing companies in Haryana.
- To study the opportunities available for companies in knowledge management in selected large manufacturing companies in Haryana.

2.2.3 Research Process

A thorough study of literature was done in order to collect the material related to KMP in Indian Manufacturing Companies (IMC’S) and challenges faced by them. This was essential to gain the basis understanding of those research areas, is the underlying concepts and the current state of research. The study of literature embraces the study of existing articles, books and web references, if appropriate.

After identifying the IMC adopting KM practices researcher conducting a survey of such companies and identified opportunities available and challenges faced by them in KM.
2.2.4. Data collection

According to Robson (1993), there are three basic methods of qualitative data collection: observation, questionnaire/interview and content analysis.

Observation – It involves watching (observing) the phenomenon in its natural environment without interrupting it; then analyzing and interpreting it.

Interview – It is a conversation with a person (or a number of people) involved in the phenomenon under the study with the purpose of gathering relevant information and motivated by research objectives.

Content analysis – It is referred to as an indirect observation and it involves the gathering and analysis of information taken from books, magazines, newspapers, official documents, statistical reports, scientific articles, publications, research reports, case study reports, Internet web-sites, documentaries, films, pictures and other sources.

This study is based on primary as well as secondary data. The data has been collected primarily through questionnaires. The benefits of using questionnaire are: Questionnaires are useful to know the respondents experience with the problem, to know the opinions of respondents about the problem and to identify, investigates industrial practices for the intended problem. Secondary data has been collected from Internet-Websites, Books; Research papers, Annual reports of the companies, Publications of research institutes etc.

2.2.5 Sample design

For choosing the sample from the universe under study, only those Indian Manufacturing companies have been selected which are located in Haryana. The present study is based on Convenience-cum-Stratified Sampling. Three major industries (Engineering, Readymade Garments, Chemical & Pharmaceuticals) have been taken as
sample. From each industry three big companies have been selected. While selecting these companies enough care has been taken to see that only those companies are selected for study, which are adopting knowledge management practices. Those companies, which incorporate knowledge management in their mission statement and are willing to share the information on knowledge management practices, are part of study.

Therefore, the topic of research is “An evaluation of Knowledge Management Practices in Indian corporate sector”. The companies which have been selected for the purpose of this study, are given in table No- 2.1

Table 2.1 Sample design

<table>
<thead>
<tr>
<th>Type of Industry</th>
<th>Name of the company</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engineering</strong></td>
<td>• Maruti Suzuki Ltd.</td>
</tr>
<tr>
<td></td>
<td>• Hero Honda Motor Ltd</td>
</tr>
<tr>
<td></td>
<td>• Atlas Cycle</td>
</tr>
<tr>
<td><strong>Readymade Garments</strong></td>
<td>• Hall Mark</td>
</tr>
<tr>
<td></td>
<td>• Indian Terrain Fashions Ltd</td>
</tr>
<tr>
<td></td>
<td>• Orient Craft Ltd.</td>
</tr>
<tr>
<td><strong>Chemical &amp; Pharmaceuticals</strong></td>
<td>• Ranbaxy Laboratories</td>
</tr>
<tr>
<td></td>
<td>• Dhanuka pesticides</td>
</tr>
<tr>
<td></td>
<td>• Morepen laboratories</td>
</tr>
</tbody>
</table>

The table 2.2 shows the usable responses received from respondents and their valid response rate. Company executive and senior managers have 100% valid response rate but valid response rate is 90.74% in the case of companies.
Description of collected data is given in a following table-

### Table 2.2: Valid Response Rate

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Total Sample</th>
<th>Usable responses Received</th>
<th>Valid response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Executives</td>
<td>45</td>
<td>45</td>
<td>100%</td>
</tr>
<tr>
<td>Senior Managers</td>
<td>90</td>
<td>90</td>
<td>100%</td>
</tr>
<tr>
<td>Employees</td>
<td>540</td>
<td>490</td>
<td>90.74%</td>
</tr>
</tbody>
</table>

Source- based on primary data

### Table 2.3: Company employees' Survey Response Rate

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Company</th>
<th>Sample Size</th>
<th>Usable Responses Received</th>
<th>Valid response rate %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hero Honda</td>
<td>60</td>
<td>52</td>
<td>86.66%</td>
</tr>
<tr>
<td>2</td>
<td>Maruti Suzuki</td>
<td>60</td>
<td>54</td>
<td>90%</td>
</tr>
<tr>
<td>3</td>
<td>Atlas cycle</td>
<td>60</td>
<td>47</td>
<td>78.33%</td>
</tr>
<tr>
<td>4</td>
<td>Hallmark</td>
<td>60</td>
<td>62</td>
<td>103.33%</td>
</tr>
<tr>
<td>5</td>
<td>Indian Terrain</td>
<td>60</td>
<td>58</td>
<td>96.66%</td>
</tr>
<tr>
<td>6</td>
<td>Orient craft</td>
<td>60</td>
<td>46</td>
<td>76.66%</td>
</tr>
<tr>
<td>7</td>
<td>Ranbaxy</td>
<td>60</td>
<td>67</td>
<td>111.66%</td>
</tr>
<tr>
<td>8</td>
<td>Dhanuka</td>
<td>60</td>
<td>54</td>
<td>90%</td>
</tr>
<tr>
<td>9</td>
<td>Morepen laboratory</td>
<td>60</td>
<td>50</td>
<td>83.33%</td>
</tr>
</tbody>
</table>

Total 540 490 90.74%

Source- based on primary data
Finally 490 respondents filled the questionnaire out of which 153 employees were from engineering industry, 166 employees from readymade garment industry and 171 employees from Chemical & pharmaceuticals. Out of 490 respondents who filled the questionnaire company wise valid response frequency is 52 from hero Honda ltd, 54 from Maruti Suzuki, 47 from Atlas cycle, 67 from Ranbaxy, 58 from Dhanuka, 46 from orient craft, 62 from hallmark, 58 from Indian terrain, 50 from Morepen laboratory.

2.2.6. Design of Questionnaire

To gather the data from employees of selected companies, managers and executives, two separate sets of structured questionnaires have been constructed as follows:

2.2.6.1. Company employees’ and Executives Questionnaire

This questionnaire incorporates following information:

- General information- It is designed to obtain general information about respondents’ gender, education, occupation and years of work experience.
- Existing status of knowledge management - To check the awareness with the term knowledge management this section contains some basic questions.
- Existing status of Knowledge Management Practices- It contains questions related to Knowledge Management Practices to find out those KMP which are adopted by these manufacturing companies.
- Knowledge management Technologies- It contains questions related to various types of technologies generally used in Knowledge management. The main objective of this section is to find out popular technologies used in these companies for knowledge sharing and find out the most effective channels in sharing information.
- Training, Culture, Policies and Strategies- This part of questionnaire is based on the questions regarding corporate culture, policy, strategy and training for new technology.
• Challenges in Knowledge Management- Some common KM challenges were selected from literature faced by various companies. Employees were asked to tick right mark on those particular challenges, which they are facing during managing their knowledge.

• Knowledge Management Opportunities and significance- some common KM opportunities were selected from literature. Employees were asked to give their preference to that particular opportunities/ significance available in knowledge management.

2.2.6.2. Questionnaire selected to senior management of the company

This questionnaire included the following:

• General information- it is designed to obtain General information about respondents' gender, education, occupation and years of work experience.

• Basic information of company- it contain questions based on basic information of their company such as- Number of employees, technology status and responsible group for KM.

• Knowledge Management Practices- Knowledge Management Practices adopted by their company or firm before 2010, since 2010 or plan to use within 24 months.

• Knowledge management technology- over the next three years what changes do they expect in the levels of usage of KM tools.

• Challenges in Knowledge Management- Some common KM challenges were selected from literature faced by various companies. Senior Manager were asked to give rank to top five challenges they are facing during managing their knowledge.

• Knowledge Management Opportunities and significance- Some common KM opportunities were selected from literature. Senior mangers were asked to give rank to top five opportunities/ significant available in knowledge management.
2.2.7 Tools of data Analysis

The data so collected has been analyzed with the help of various tools and techniques to fulfill the research objectives. These include Cronbach alpha test\(^1\), Percentage, Mean\(^2\), Chi-Square Test\(^3\), One-way ANOVA (Analysis of Variance)\(^4\) and Cross tabulation and Knowledge Management index method\(^5\). The use of all these techniques at different places has been made in the light of nature and suitability of data available and requirement of analysis. To conduct the statistical techniques, **SPSS (Statistical Package for Social Science) version 16 for windows** has been used. These tests have been conducted at 95 per cent confidence level (or 5 per cent level of significance).

1. Cronbach alpha Test to check the reliability of the questionnaires: Before conducting the analysis a reliability test was conducted on the KM dimensions used in the study. This is done by using \(\alpha\) coefficient (cronbach alpha) as given below:

\[
\alpha = \left( \frac{K}{k-1} \right) \left( 1 - \sum_{i=1}^{k} \sigma^2_i \right)
\]

where  
\(K = \text{No: of items in the scale}\)  
\(\sigma^2_i = \text{Variance of scores on items i across subjects}\)  
\(\sigma^2_t = \text{Variance of total scores across subjects where the total score for each respondent represents the sum of the individual item scores.}\)

Cronbach alpha for knowledge management practices is .733 for employees and .915 for managers, for KM technology it is .907 for employees and .856 for managers, for KM challenges it is .665 for employees and .608 for managers and for KM opportunities it is .905 for employees and .703 for managers. The value of Cronbach alpha varied from 0.608 to 0.915 indicating a high degree of reliability.

A reliability test was conducted on each of the four dimensions for employees, managers and executives separately.
Table 2.4 Reliability Statistics

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Employees</th>
<th>Managers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cronbach's Alpha test</td>
<td>Cronbach's Alpha test</td>
</tr>
<tr>
<td>Knowledge Management Practices</td>
<td>.733</td>
<td>.915</td>
</tr>
<tr>
<td>Knowledge Management Technology</td>
<td>.907</td>
<td>.856</td>
</tr>
<tr>
<td>Knowledge Management Challenges</td>
<td>.665</td>
<td>.608</td>
</tr>
<tr>
<td>Knowledge Management Opportunities</td>
<td>.905</td>
<td>.703</td>
</tr>
</tbody>
</table>

Source - based on primary data

2. Mean or average value, a measure of central tendency - it is obtained by summing all elements in a set and dividing by the number of elements. Mean Score is calculated as follows:

\[ \text{Mean}, x = \frac{5N_5 + 4N_4 + 3N_3 + 2N_2 + 1N_1}{N_5 + N_4 + N_3 + N_2 + N_1} \]

Where: 
- \(N_5\) = number of respondents who answered “Strongly Agree”
- \(N_4\) = number of respondents who answered “Agree”
- \(N_3\) = number of respondents who answered “Neutral”
- \(N_2\) = number of respondents who answered “Disagree”
- \(N_1\) = number of respondents who answered “Strongly Disagree”

3. Chi-Square, a non-parametric Test - It is used to test the statistical significance of the observed association in a cross tabulation. It assists in determining whether a systematic association exists between the two variables or not.(Malhotra, 2007, p.474). In this study, ‘Chi-Square Test of Independence’ (Which is used to find out whether two
attributes are associated or not)' is applied for testing the hypotheses via SPSS 16. The chi-square statistic is arrived at by using following formula.

\[ \chi^2 = \sum \frac{\left(f_o - f_e\right)^2}{f_e} \]

Where:

\( \chi^2 \) = Chi-Square Statistic

\( f_o \) = Observed Frequencies

\( f_e \) = Expected Frequencies

\( df \) (degree of Freedom) = \((r - 1) \times (c - 1)\)

4. One-way ANOVA (Analysis of Variance)- It is a statistical technique used to compare means of more than two groups. The general rule for ANOVA is that if the significance value is less than 0.5, then there is a significant relationship between the two variables. It is applied when there is only one categorical independent variable and one metric dependent variable. Independent variable may have three or more than three categories. In this study one-way ANOVA is used to analyze variance between knowledge management practices & technology status. One-way ANOVA is performed treating technology status as independent variable and knowledge management practices as dependent variable through SPSS 16.

5. Knowledge Management Index Method- The data were interpreted on the basis of weighted scores for each parameter and sub-parameter. Final conclusions were drawn on the basis of a Knowledge Management Index, which were calculated by the below given formula,

\[ KMI = \sum \frac{W_i \times 100}{n_i R} \]

Where \( w \) is weighted sum score, \( i \) is number of sub-parameters, \( n \) is number of respondents and \( R \) is maximum value of rating which is three in the present study.
2.3. Outline of the study

The present study is structured around six chapters. A brief description of each chapter is as follows:

Chapter 1 – Introduction and Review of Literature: - In this chapter researcher introduces basic elements of knowledge management in first section- which include meaning, definition of KM, Types of knowledge management, Process of KM, KM system and KM approach, KMP and KM technology. Second section is review of literature. The whole section is divided into nine parts according to the variables of the study.

Chapter 2 –Research Methodology and Theoretical framework of research: - Contents of this chapter are problem area, Purpose of the study, need of KM in manufacturing industry, Research process- research design, sample design (Theoretical framework), data collection, questionnaire format.

Chapter3 –Knowledge Management: Existing status and Knowledge Management Practices - This chapter is divided into two parts. The objective of first part is to find out the Existing status of KM in IMC’S’s and second part focuses on various KMP adopted by IMC’S’s.

Chapter 4– Technology in knowledge management- Various Knowledge Management Technologies used by IMC’S’s are discussed in this chapter. Some Most effective tools for knowledge sharing are also discussed in this chapter.

Chapter 5–Challenges & Opportunities of Knowledge Management- In this chapter a detail discussion is given about the challenges faced by the Knowledge workers during KM and also the opportunities available in Knowledge Management have been incorporated in this chapter.

Chapter6 –Findings and Suggestions- a summary of research findings is given in this chapter and suggestions on the basis of findings are also incorporated.
2.4 Profile of selected research industries

Three industries from manufacturing sector were selected for study. A brief overview of these industries is given below-

2.4.1 Engineering Industry in India

The engineering sector is the largest sector among the industrial segments in India. Engineering industry holds a significant position in Indian market. Reasonably vast ranges of engineering goods are produced in India targeted for both national and international markets. Moreover, a recent study by Kauffman Foundation, has found out that about 33.2 per cent of the co-founders of engineering and technology companies incorporated in the US over 2006-12 were Indians. The study - America's New Immigrant Entrepreneurs: Then and Now - was conducted among a random sample of 1,882 companies of the total 107,819 engineering and technology companies founded in the last six years in the US.

India is also transforming into a research hub for the global companies. India spends around 0.9 per cent of gross domestic product (GDP) on R&D. Since R&D is the basic constituent of promoting innovation, Indian entrepreneurs as well as the Government are highly focused to augment the culture of research in the country. About 6,000 patent applications were filed by Indians in 2010, which formed 0.3 per cent of the total applications filed in the world. Hence, there lies a lot of scope for development and investment in the area.

The US and Europe together account for over 60 per cent of India's total engineering exports. Engineering exports from India amounted to US$ 36 billion during April-November 2012. During 2011-12, engineering exports grew 17 per cent to US$ 58.2 billion, as against US$ 49.7 billion in the previous fiscal. Engineering exports include transport equipment, capital goods, other machinery/equipment and light engineering products like castings, forgings and fasteners.
2.4.2 Readymade garments Industry (RMG)

The domestic RMG industry is highly fragmented, with a few organized players and a large number of unorganized players. The organized segment is relatively better-off, as benefits of branding and positioning accrue to them in the form of better price realizations. Moreover, competition amongst the organized players is likely to intensify with international brands entering India and some exporters diverting capacities to serve the domestic market.

On the export front, India faces stiff pricing pressure from other low-cost manufacturing countries such as China, Vietnam, Bangladesh, Indonesia, and Pakistan, which have been able to garner a substantial portion of the US and EU markets on the basis of lower prices. India scores over other countries in respect of availability of raw material and labour, but a heavy skew towards cotton-based apparel exports, limited diversification of export markets and low machinery and labour productivity compared to competing exporters have constrained the growth prospects of Indian RMG exporters.

2.4.3 Indian pharmaceutical industry

The Indian pharmaceutical industry is globally ranked as fourth by volume and thirteenth in value terms. India is one of the top five manufacturers of bulk drugs in the world and ranks amongst the top 20 pharmaceutical exporters in the world. Every fifth application for marketing a generic drug in the US, the world’s largest pharmaceutical market, is filed by an Indian company.

Over the past decades, there have been a number of changes in the Indian policy framework that have succeeded in lowering the entry barrier to the market. Indian pharma companies have used new process technologies to make and sell world-class bioequivalent generic drugs. From an import led industry in the 1970s, when 70% of medicines were being imported, we now export 80% of indigenously developed high-quality medicines, across the globe.
The new patent regime that came into existence on January 1, 2005 presents both challenges and opportunities for the Indian pharmaceutical industry. The domestic market is gradually moving towards consolidation and only players with strong technical and research capabilities and a global vision are likely to survive.

India needs to focus more on manufacturing in order to achieve GDP growth more than 6.5 per cent. The manufacturing sector has the scope for creating jobs for millions of people who leave other sectors such as agriculture. India's economic growth rate slipped to 5.3 per cent in the fourth quarter of 2011-12, the lowest in nearly nine years, following poor performance of the manufacturing and farm sectors. During the quarter ending March 31, growth in the manufacturing sector contracted to 0.3 per cent, from 7.3 per cent in the corresponding period of 2010-11. The performance of the manufacturing sector was also far from being buoyant. The manufacturing sector reported a growth of 0.2% in Q1FY13, vis-à-vis (-) 0.3% growth in Q4 FY12. (Source- CSO&FICCI Research)

Above discussed three manufacturing industries are playing an important role in Indian economy. Nine companies were selected from these three industries for research. Overview of all nine companies is given below-

2.5 Companies Profile

Engineering Industry

Three companies were selected from engineering industry is –Hero Honda Motors Ltd., Maruti Suzuki India Ltd., Atlas Cycles Ltd.

2.5.1 Hero Honda Motors Ltd.

A joint venture between the Hero Group and Honda Motor Company was established in 1984 as the Hero Honda Motors Limited at Dharuhera India. Hero is the brand name used by the Munjal brothers for their flagship company Hero Cycles Ltd. Munjal family
and Honda group both own 26% stake in the Company. However, the Hero Honda group was split in the end of 2010. After the split the Munjal family bought Honda Motor’s 26% stake for around $1 billion, or a little less than half the current value of the stake in the stock market. In 2010, When Honda decided to move out of the joint venture, Hero Group bought the shares held by Honda. Subsequently, in August 2011 the company was renamed Hero Moto Corp with a new corporate identity. Hero MotoCorp Ltd. (Formerly Hero Honda Motors Ltd.) is the world's largest manufacturer of two-wheelers, based in India.

Hero Moto Corp two wheelers are manufactured across three globally benchmarked manufacturing facilities. Two of these are based at Gurgaon and Dharuhera which are located in the state of Haryana in northern India. The third and the latest manufacturing plant is based at Haridwar, in the hill state of Uttrakhand.

2.5.2 Maruti Suzuki India Ltd.

On the 16th of November 1970 Sanjay Gandhi, Indira Gandhi’s youngest son, founded a private limited company named ‘Maruti technical services private limited’ (MTSPL). The stated mission of the enterprise was the development of a ‘people’s car’ – an affordable, cost-effective, low maintenance and fuel efficient car – for India’s middle class that is indigenously designed and produced.

Car market leader Maruti Udyog Limited now has a new name "Maruti Suzuki India Limited". Maruti Suzuki India Limited (MSIL, formerly known as Maruti Udyog Limited) is a subsidiary of Suzuki Motor Corporation, Japan. Maruti Suzuki has been the leader of the Indian car market for over two and a half decades. The company has two manufacturing facilities located at Gurgaon and Manesar, south of New Delhi, India. Both the facilities have a combined capacity to produce over a 1.5 million (1,500,000) vehicles annually. The company plans to expand its manufacturing capacity to 1.75 million by 2013. Maruti Suzuki is the only Indian Company to have crossed the 10 million sales mark since its inception. In 2011-12, the company sold over 1.13 million
vehicles including 1,27,379 units of exports. The Company employs over 9000 people (march2012).

2.5.3 Atlas Cycles Ltd.

Incorporated in 1951, Atlas is one of the largest bicycle manufacturers in India. The company manufactures bicycles, their components, accessories and steel tubes. Atlas’s products are used in more than 80 countries, which include Italy, Australia, UK, Japan, Holland and others. It offers wide range of bicycles from low range necessity bicycles to high-end bicycle serving common man, women and kids. Atlas operates through 3 subsidiaries viz- Atlas Cycles (Sonepat) Ltd, Atlas Cycles (Sahibabad) Ltd and Atlas Cycles (Malanpur) Ltd. India’s bicycle industry is the second largest in the world after China, with an annual production of about 12 million bicycles. The industry is growing at a moderate rate.

Atlas Cycles (Haryana), Sonepat is one of India's oldest and most trusted cycling companies. Atlas Cycles started its odyssey way back in 1951 and today it is one of the largest manufacturers of bicycles in the world. The products are sold under various trade names such as "Atlas", "Army", "Eastern Star", "Zebra" and "Laser" etc. Atlas Cycles (Haryana), Sonepat, has the privilege of being the only Indian complete bicycle-manufacturing unit whose in house research and development (R&D) unit recognized by the Department of Scientific and Industrial Research, Ministry of Science and Technology, Government of India.

Readymade Garment industry- three companies selected from RGM industry- Orient Craft Ltd., Hallmark Manufacturing Co. Ltd., and Indian Terrain Fashion Ltd. Brief introduction of these three are given below-

2.5.4 Orient Craft Ltd

Set up in 1978, Orient Craft Limited has consistently been one of India's top garment manufacture and export organizations. Today it stands strong with 21 facilities and a committed workforce of over 25 thousand producing more than 100 thousand
pieces of global fashion in a day. Catering to over forty fashion brands and designers like Marc Jacobs, Diane Von Furstenberg, Polo Ralph Lauren Blue Label, Banana Republic, Michael Kors, DKNY, Express, Tommy Hilfiger, Macy's, Monsoon, Marks & Spencer, Ann Taylor, Abercrombie and Fitch.

2.5.5 Hallmark Manufacturing Co. Ltd

The Factory of Hallmark Manufacturing Co., Ltd produces shirts, jackets, pants, vests and blousons. It is now taking care of Japanese orders and exporting the goods to Japan. In addition to the above-mentioned apparels, it also produces other materials if the samples are provided, with the assurance that the exact copies of the samples will be produced. If the buyer companies or the customers are desirous of sending their own technicians to teach their workers, they can do so personally at their factory. The main objectives of Hallmark Manufacturing Co., Ltd are produce the exact copies of the samples provided, produce the apparels of high quality, see that orders are completed on time, provide customer satisfaction, to ensure lasting existence of the factory with its qualified workers producing quality products, to maintain lasting partnership with the present customers.

2.5.6 Indian Terrain Fashion Ltd.

Indian Terrain Fashions Limited (ITFL) was incorporated in 2009 as a subsidiary of Celebrity Fashions Ltd. The division was launched by CFL for ready-to-wear menswear in 2000. Indian Terrain Fashions Limited, incorporated as a public limited company on 29th September, 2010 with the objective of carrying on manufacture, trade, deal, sell design and export/import all kinds of garments of gentlemen, ladies and children, etc. It sells products under the brand name "Indian Terrain". Its registered office is located at Chennai. The company is amongst the leading retailers in India. The business of the company is selling garment in the local market by setting up exclusive brand retail outlets across India and carrying on business as retailer, importers, and dealers in all kinds of suiting, shirting, cotton and manmade synthesis knitted fabrics, apparel, home textiles and fashion accessories.
Chemical & Pharmaceutical industry

Three companies were selected from C&P industry- Ranbaxy laboratories ltd., Dhanuka Agritech Ltd., Morepen laboratories ltd. Introduction of these are given below-

2.5.7 Ranbaxy laboratories ltd

In India Ranbaxy laboratories ltd is a largest pharmaceutical company. Ranbaxy is an international company, producing a wide range of quality, affordable generic medicines, trusted by healthcare professionals and patients across geographies. Rank of Ranbaxy Laboratory is 23rd top most company all over the world, World-class manufacturing facilities in 8 countries and serves customers in over 125 countries.

Ranbaxy is one of the leading pharmaceutical Companies in India commanding a market share of around 5%. The Company has clocked sales of USD 293 Mn in 2009 in India. Growing ahead of the market, the Company has enhanced its competitive position in the domestic market through its focused approach. The Company’s business has been realigned to its customer groups and investments have been made in high growth segments. Company’s India operations are a dominant force in a number of participating therapeutic segments, for example Anti-infective, Statins, Dermatology and Pain Management. A publicly listed company, Ranbaxy India is also a member of IPA (Indian Pharmaceutical Alliance) & OPPI (Organization of Pharmaceutical Producers of India).

In 1938, B.M.Singh's cousins, RanjitSingh and GurbaxSingh in Amritsar Punjab started RC. Ranbaxy's name was a fusion of Ranjit and Gurbax's names. Ranbaxy Laboratories Ltd was incorporated in the year 1961. In the year 1973, the company became a public limited company. Also, they set up a multipurpose chemical plant for manufacture at Mohali in India in the year 1987.
Manufacturing units of Ranbaxy are available in 8 countries namely India, the United States, Brazil, Ireland, Malaysia, Nigeria, Romania and South Africa. The research and development activities of the company are principally carried out at Gurgaon (Haryana), near New Delhi, India.

2.5.8 Dhanuka Agritech Ltd.

Dhanuka Agritech Limited handles crop care business of Dhanuka Group. The core strength of the company lies in its vast distribution network spread in the interiors of rural India through 27 branch offices, 1000 plus techno-commercial staff and 15,000 highly dedicated dealers. It has 4 modern manufacturing facilities at Gurgaon and Sohna in Haryana, Sanand in Gujarat and Udhampur in J&K for formulation of various grades of pesticides, fungicides, miticides, weedicides, plant growth stimulants, plant growth regulators, foliar fertilizers and sticking agents. It also has 2 Seed Processing Units at Mandideep in M.P. and Turkapalli (Hyderabad) in Andhra Pradesh. The company is tapping the inherent synergies between crop protection products and seeds business by introducing high quality seeds – both hybrid and OP for various crop segments like paddy, wheat, vegetables, cereals and oilseeds. The company is working towards building partnerships with seed companies of international repute for fulfilling its commitment to introduce new varieties and hybrids.

Dhanuka Laboratories Ltd (Dhanuka Lab) was established in the year 1996. The company commenced its export operations in the year 2005. Dhanuka Lab is a part of Dhanuka Group. Dhanuka Group was primarily engaged in the manufacturing of pesticides and diversified into pharmaceutical products with the inception of Dhanuka Lab. Dhanuka Lab is an exporter of bulk drugs and intermediates. Dhanuka Lab is involved in manufacturing and exporting of active ingredients and advance intermediates in the field of Cephalosporin antibiotics. The company operates with one plant located in Gurgaon. The company generates 40% of its revenue from the international market.
2.5.9 Morepen laboratories ltd

The first Morepen manufacturing plant was set up on the foothills of the Himalayas in the idyllic surroundings of Parwanoo. The large and spread out facility is USFDA approved for manufacture of Loratadine, an anti-allergy drug – internationally known as Claritin. The company has got all India networks, which are being augmented, on consistent basis. It presently has a sales team of around 200 and continuously ramp up the headcount. It possesses significant reach to a good number of specialist doctors and general medical practitioners.

The company, at present, is actively marketing more than 50 branded formulations with famous brands like DOM DT, Saltum, Saltumax, Pentopen, Acifix, Claridin, Klarim & others. The company possesses WHO & GMP compliant manufacturing facilities for manufacture and development of formulations in various forms like Tablet, Capsules, Powder, Liquid, Multiple Dosages unit form, Semi-solid and Suspension form.

This business was started on the principles of exclusive marketing; distribution and service tie up with multinational companies for their products to be marketed in domestic markets. ‘Morepen’ with the help of large field force and Pan India presence, was able to penetrate large hospitals and diagnostic centers. With the result that ‘Morepen’ was able to get first mover advantage among domestic Devices' companies and is very well regarded name among the Indian companies engaged in marketing and distribution of Diagnostics Devices. It has also added Home Health Brand for self health care devices.

Total sample size of the study was 625. Employees with valid response were 490, executives were 45 and senior managers were 90. Here employees refers to the person working on low office level such as- account branch or fieldwork. A senior manager refers to middle officer level such as- purchase mangers, sales managers and Executive refers to higher official level such as Board of directors.
2. 6 Respondents Profile –

Employees, managers and executives from nine selected manufacturing units were the respondents of this study. Respondents profile description is as follows.

Gender Description- Table 2.5 shows that 60% executives were male and 40% were female, senior managers gender ratio was 95.6:4.4 (95.6% were male) and further 96.9% employees were male and only 3.1% were females. It is clear that at employees and senior level males were more than 95% but at executive level it is only 60%, females' percentage is higher at Executive level.

Educational Qualification- As the table shows 66.7% of executives were having Masters degree and 31% were graduate, 35.6% of senior managers were post-graduate and 35.6% were graduate, 49% of employees were graduate and 43.5 were having diploma/certificate.

Years of work experience- total 46.7% of executives had six to ten years work experience and 33% had one to five years work experience. Total 32.2% of managers had six to ten years work experience and 37.8% had one to five years work experience. Total 34.7% of executives had six to ten years work experience and 53.5% had one to five years work experience. It may conclude that employees change their job frequently in comparison to managers and executives.
Table 2.5 – Respondents Profile

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<tr>
<th>Particulars</th>
<th>Classification</th>
<th>Executive</th>
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<th>Employees</th>
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<tr>
<td></td>
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<td>Count %</td>
<td>Count %</td>
<td>Count %</td>
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<tr>
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Source-based on primary data
References:


Web-Link: