

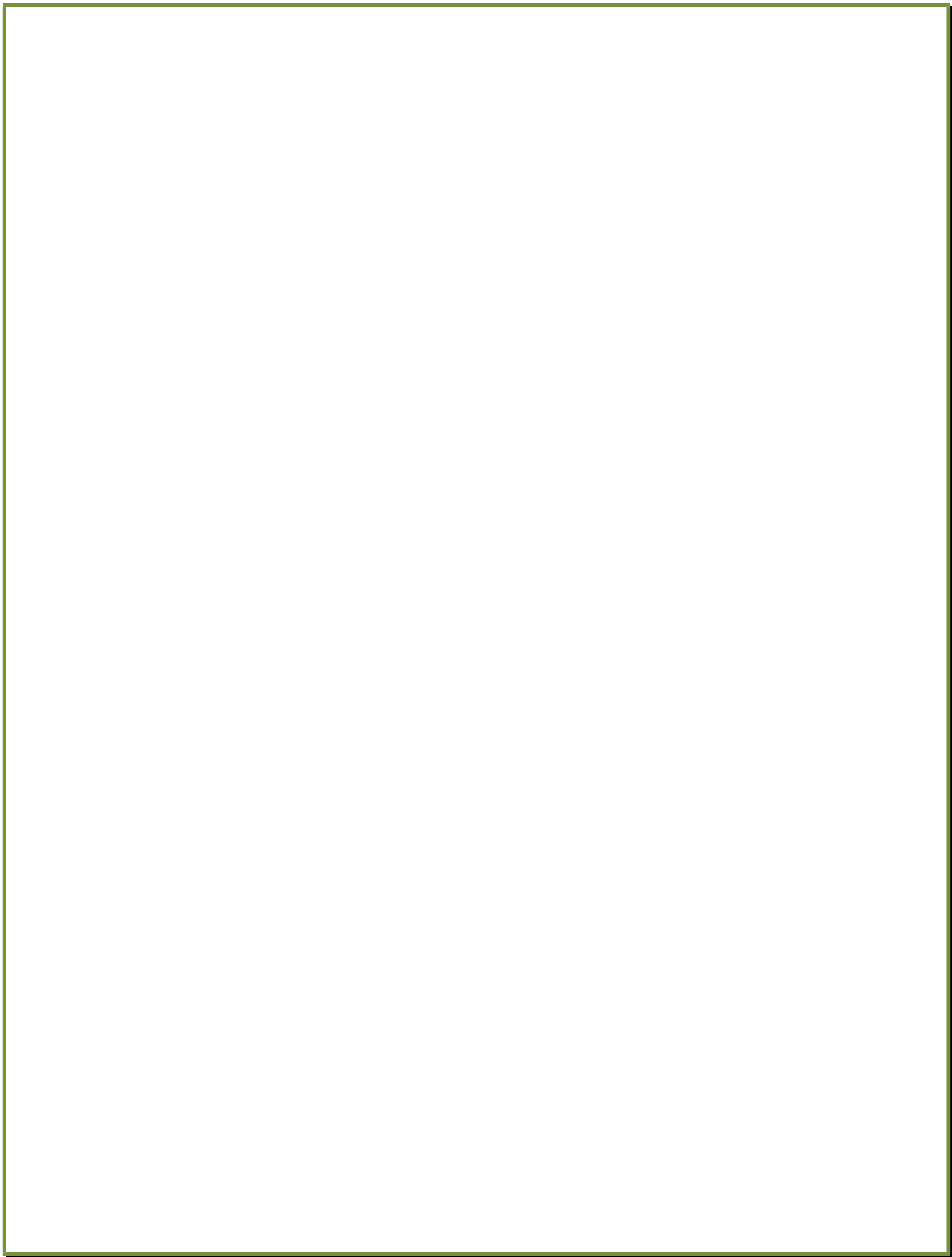


SKILL GAP ANALYSIS

DELHI

Chapter Scheme

- 1. Introduction*
- 2. Survey Analysis*
- 3. Product Segment wise Analysis*
- 4. Skill Gap Analysis and Human Requirement*



INTRODUCTION

“Learn to Earn” – it could be an apt saying for highlighting the importance of economic strength derived through skill development. One should remember that skills and knowledge are the driving forces of economic and social development for any country/state/region. Individuals with higher and better levels of skills adjust more effectively to the challenges and opportunities in the world of work. Potentially, the target group for skill development comprises all those in the labour force, including those entering the labour market for the first time, those employed in the organized sector and those working in the unorganized sector. Any industry contributing to the economy through its products or services demands people to fit in the job roles specific to their industry. However, the present educational system does not focus on industry specific requirements therefore we witness skill gaps with respect to different industry requirements.

Major challenge of skill development initiatives in a given industry is to address the needs of new entrants by providing skills in order to make them employable and help them secure decent work as well as to make the already employed workforce in that industry more efficient. Skill development for persons working in the industrial sector creates greater awareness towards environmental, safety and health concerns.

A collective, not an individualistic effort, is the need of the hour where all the stakeholders in the manufacturing sector should take part in skill development to enhance productivity, competitiveness and employability. As stated in the *National Policy on Skill Development*, the task of skill development has many challenges which include:-

- a) Increasing capacity and capability of existing system to ensure equitable access to all.
- b) Promoting lifelong learning, maintaining quality and relevance, according to changing requirement particularly of emerging knowledge economy.

c) Creating effective convergence between school education, various skill development efforts of government and between government and Private Sector initiative.

d) Capacity building of institutions for planning, quality assurance and involvement of stake holders.

e) Creating institutional mechanism for research development quality assurance, examinations and certification, affiliations and accreditation.

f) Increasing participation of stakeholders, mobilizing adequate investment for financing skill development, attaining sustainability by strengthening physical and intellectual resources.

In the current scenario, most of the skill learning in the industry happens through unstructured, on-the job training. The large organizations or organized companies mainly hire matriculates, ITIs & Diploma holders and give them structured on the job training. The MSME and unorganized segment of manufacturing sector hire even uneducated workers and supervise them to learn skill which is totally unstructured. The new apprentice is taken as a helper and learns various aspects of the job with time, under the guidance of his seniors. As such, there has not been much improvement and development in skill levels in the industry. The phenomenon of unskilled hiring is similar at the macro level for various industries but skill requirement is unique for each industry.

In this report, the focus is on the skill requirement of the rubber industry in Indian context. We concentrate on the quality of the available manpower, skill deficiencies leading to the skill gap, emerging trend for industry expansion and skill requirement in the rubber sector. Before we take up the skill gap analysis in the rubber industry in the northern state of Haryana in India, let us have a look at the development with respect to production, consumption and trade for the main component of the rubber manufacturing industry.

Rubber in Focus

In the year 2013, India occupied the position of the fifth largest producer and second largest consumer of rubber in the world. Global ranking of countries in terms of Natural Rubber (NR) supply changed during 2013. Vietnam and China moved up to occupy the third and fourth positions respectively pushing down India to the fifth and Malaysia to the sixth positions.

Table 1.1: Production of Natural Rubber in Major Producing Countries (000 tonnes)

Country	2013	2012
Thailand	4170	3778
Indonesia	3180	3040

Vietnam	949	864
China	856	802
India	849	919
Malaysia	826	923
World	12041	11603

Source: Rubber Statistical News, May 2014

Adverse weather and fall in prices affected the production of natural rubber (NR) in India during the year ended March 2014. The production fell during the year by 7.6 per cent to 844,000 tonnes from 913,700 tonnes produced a year ago. This was largely due to the severe summer that prevailed in the State of Kerala during April and May 2013, interruption to tapping caused by unusually continuous south-west monsoon during June and July 2013 and loss in yield due to leaf diseases. Moreover, low rubber prices and high wages have compelled smallholders to reduce application of inputs and adoption of recommended farm-management practices. During 2014-15, the country is anticipated to produce 950,000 tonnes of NR up 12.6 per cent on year.

Continuing economic slowdown and the resultant low pace in automobile industry affected domestic consumption of NR during 2013-14. The consumption grew only by 0.9% to 981,520 tonnes during 2013-14 from 972,705 tonnes in the previous year. While the consumption grew in the auto-tyre manufacturing sector at 2.7 per cent rate, it fell 2.4 per cent in general-rubber goods sector. **Of the total quantity of NR consumed in the country during 2013-14, auto-tyre sector accounted for 66.5 percent and the balance 33.5% was absorbed in the general rubber goods sector.** During 2014-15, the consumption of NR in the country is anticipated to rise 2.9 per cent to 1.01 million tonnes.

Table 1.2: Consumption of Natural Rubber in Major Consuming Countries (000 tonnes)

Country	2013	2012
China	4150	3857
India	962	988
USA	913	950
Japan	712	728
Thailand	520	505
Indonesia	603	548
Malaysia	434	441
World	11397	11079

Source: Rubber Statistical News, May 2014

The extent/proportion of rubber consumption in the different segments has a correlation with the employment requirement. Not only the industry that is using the natural and synthetic rubber demand skilled labourer but the reclaim rubber sector do presents the greater job opportunities with the production crossing 1.24 lakh tonnes in 2013-14.

The country produced 112,886 tonnes of synthetic rubber (SR) during 2013-14, up 3.9 per cent on year. The consumption of SR in the country rose by 8.9 per cent to 483,575 tonnes during the year under review. The consumption grew faster at 11.5 per cent rate in the general rubber goods sector as against 7.9 per cent growth attained in the auto-tyre manufacturing sector.

Table 1.3: Rubber Balance at a Glance

2013-14	Production	Consumption
Natural Rubber	844000	981520
Ribbed Smoked Sheet	622540	560230
Solid Black Rubber	106815	322250
Latex Concentrates	68075	77515
Others	46570	21525
Synthetic Rubber	112886	483575
Styrene Butadiene	22105	220950
Poly Butadiene	80685	158260
Others	10096	104365
Reclaimed Rubber	124325	123725

Source: Rubber Statistical News

The relative shares of NR and SR in the total volume of NR and SR consumed in the country continued to tilt in the favour of SR during 2013-14. As a result, the relative NR share fell by 1.7 percentage point from 68.7 per cent in 2012-13 to 67.0 per cent in 2013-14. The declining NR share may be traced against the increasing dominance of passenger car tyres in the country's total production of auto-tyres.

For natural as well as synthetic rubber, consumption is higher than the production in the country indicating towards the existence of external trade for the commodity. The import and export of the raw material as well as manufactured products (tyre as well as non-tyre) takes place between India and other countries.

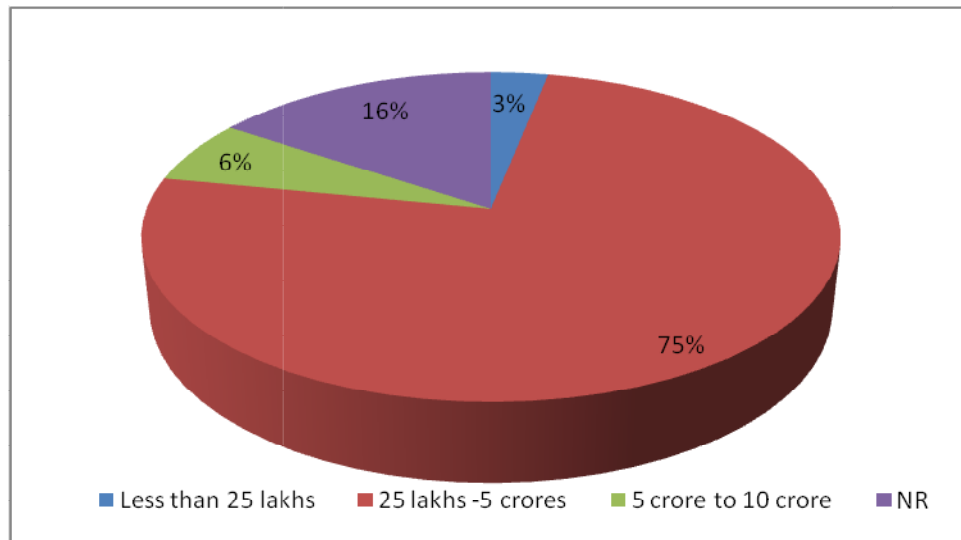
After discussing the rubber consumption pattern at the all India level, let's have a look at the trends in rubber industry in the capital city in focus, i.e. Delhi.

SURVEY ANALYSIS

This chapter presents the analysis of the data collected from the select rubber products manufacturing firms across the different segments. A total of 32 firms were selected for the study of skill gap analysis in the rubber product manufacturing industry from different regions in the capital city of Delhi. The firms engaged in the production of different products were considered including adhesive, belt, footwear, cables, sports goods, gloves, auto and cycle parts, tyre, tube and flap, moulded and extruded rubber products and tread rubber. The analysis focuses on to provide an insight into the pattern of manpower recruitment, their skills, skill gap, training status and requirement in the rubber industry of Delhi based on the feedback received from the surveyed firms. It would help in understanding the existing and emerging skill gaps with respect to the rubber industry in Delhi. The chapter concludes with summarizing the industry players' expectations from the various stakeholders viz, RSDC, Industry Association, Educational Institutes and other stakeholders.

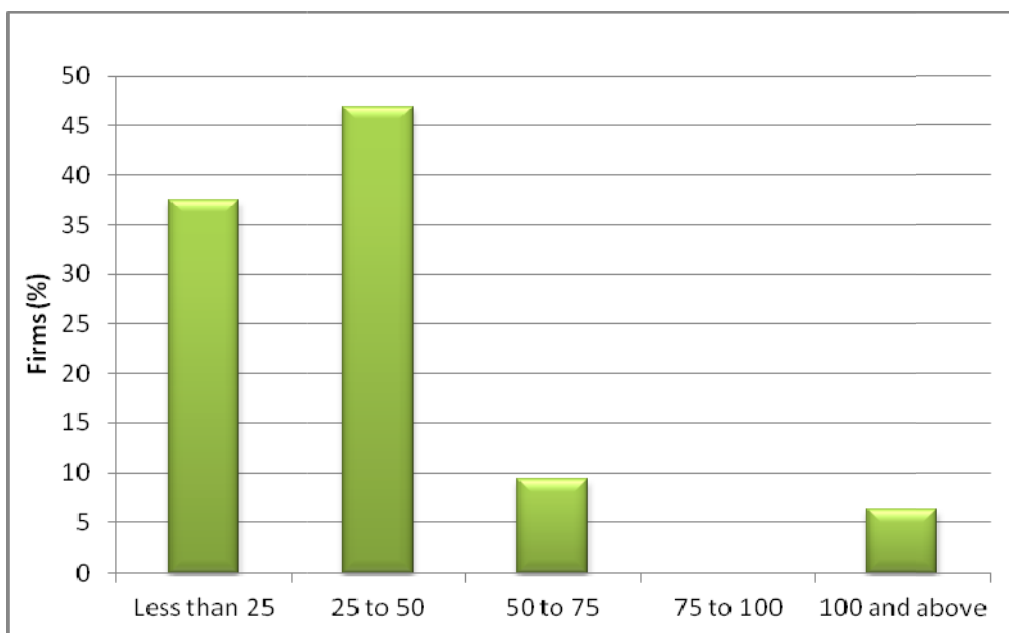
In order to provide a wide coverage across the industry based on investment and number of persons employed –tiny, small and medium scale firms have been covered in the survey. Majority of the respondent firms have invested upto 5 crores based on their total investment in the business. However, sixteen percent did not reveal the exact amount invested in their enterprise.

Fig 2.1: Firms' Investment



Another important variable reflecting the size of the firm relates to the total number of employees in the organization. The employment pattern reveals that more than 80 percent of the firms employ less than 50 persons. It has been noticed that all the firms have more than ten employees reflecting that the presence of fewer tiny firms. There were very few firms (4) who shared that they have a specific expansion plan for their business. Majority of the firm envision automation of production process as the major change in coming years which clearly indicate requirement for operating automated machines in the different segments of rubber manufacturing.

Fig 2.2: Employment Pattern



The survey provides a coverage of a combination of old established firms as well as newly established firms in the beginning of 21st century. This particular phenomenon helps in identifying the problems with respect to skilled manpower in the industry for older and newer firms as well as highlights the similarity for both. Majority of the rubber products manufacturing firms were established before the beginning of 21st century. Irrespective of the period of establishment, the rubber industry is dominated by the small scale firms across the different segments of rubber product manufacturing. In the last decade, the city has not witnessed a large number of rubber product manufacturing firms commencing their business in the organized segment.

Table 2.1: Commencement of Business

Year of Establishment	Number of Firms
1950-1975	6
1975-2000	24
2000-2015	2

Recruitment Strategy

Majorly, the firms engaged in rubber industry are interested in hiring the employees on their roll irrespective of their production capacity, investment, product segment and number of total personnel employed. An analysis of the recruitment strategy of the firms belonging to the rubber industry in the state of Delhi depicts that 94 percent of the surveyed firms have hired all the employees on their roll and only 6 percent have off roll employees. Those firms which have off roll employees also do not indicate any correlation with the size of the production and investment by them.

Table 2.2: Basis of Recruitment

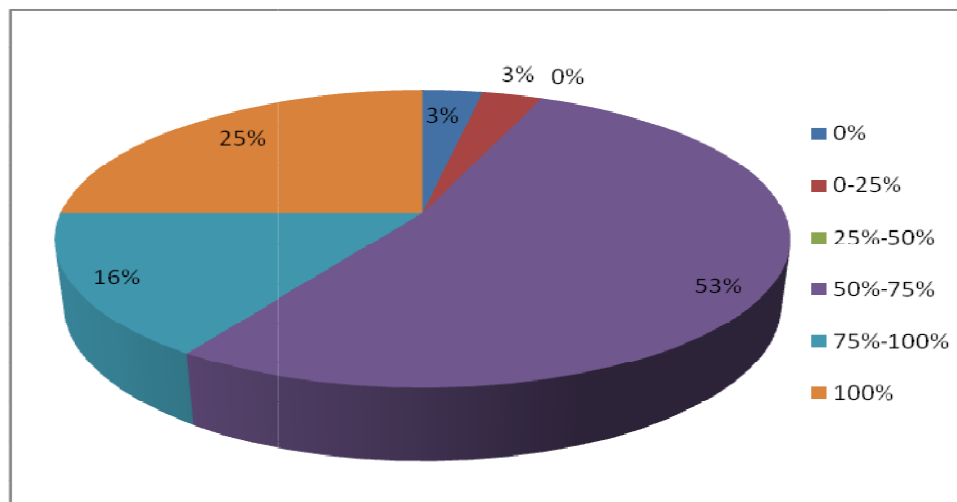
Percentage of on roll employees	Surveyed Firms (%)
Less than 25	0
25-50	3
50-100	3
100	94

The most effective method of employing workers is through internal references and direct interview for more than 90 percent of the surveyed firms. However, there are only few firms which are using the newspaper advertisement to get the relevant people for the vacant positions in their production unit.

Employees Recruitment

Among the total firms surveyed in the state, it has been noticed that 25 percent of them have recruited all the employees from Delhi only. Only one organization has all the workers coming from the state of UP.

Fig 2.3: Employment Pattern: Employees from Delhi




Regularity, no family issues and easy availability are the main reasons listed by the firms hiring the people from Delhi only. In all, 26 firms have employees coming from the other states to work in their factory premises. The employment trend depicts that majority of the firms surveyed preferred recruiting the employees from outside have their origin from the state of UP and Bihar. Odisha and Karnataka do contribute to the workforce engaged in the surveyed rubber industries in Delhi though in a very small proportion.

The most sort after position for these people are for operator's role. Some of the firms have clearly mentioned that outside people are good learning and more skilled. However, majority of them have not mentioned any reason for hiring from outside Delhi.

Attrition Trend

A noticeable trend related to the employment in the rubber products manufacturing unit is that the employees remain associated with the organizations for longer periods irrespective of the total number of people employed as a low level of attrition has been reported by 96 percent of the firms.



Less than 5 %	• 94%
5- 30 %	• 3 %
30-55 %	• 3%

Retention Strategy

Skilled manpower is more valuable as compared to their unskilled counterparts and therefore it becomes important for firms to retain the skilled workers with them. However, the survey results show that the employed personnel do not possess any technical skill before joining and gain experience through shop floor work only. Here, it is interesting to understand that if the firms spend time and resources in training people on the job then they should have effective retention strategy. However, it is found that firm's retention strategy is related to the salary payment. For two third of the firms, it is the monetary aspect related to pay, bonus and increment as well as good facilities which play an important role in encouraging people to remain associated with them for a longer period.

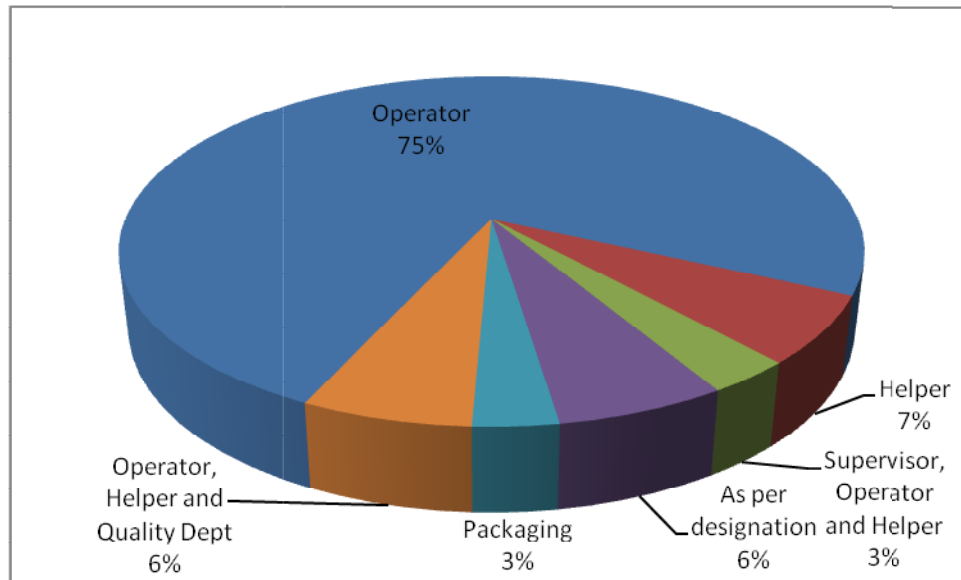
Table 2.4: Retention Strategy

Retention Strategy	Firms Response (%)
Good pay, increment, bonus and facilities	65
Salary as per government and labor law rule	35

Requirement and Availability of Manpower

The survey analysis for the key job roles for recruitment clearly shows that the main roles for employment in rubber industry are related to operator level. Three fourth of the respondent firms mentioned that main job role is related to mixing, moulding and curing operators. Next level for main recruitment is for helpers. Except for one firm, no other firm mentioned specific requirement for supervisory role which could be a reflection of their small scale of production.

Fig 2.4: Key Job Role Requirement



In Delhi, finding requisite number of people for carrying out the rubber products manufacturing by the firms is not a major concern for 44 percent of the respondent firms. However, the shortage of skilled labour has been identified as a common problem by 43 percent of the firms. It is interesting to note that neither a single firm has mentioned about the supervisor's role for recruitment nor they face any problem in hiring people for supervisory role. Based on the responses of the firms, it has been pointed out that people remain associated for the firms for longer duration and thus, it is believed that the requirement for supervisory role does not emerge.

Actual Employment

The main categories for which firms have listed out their total employment pattern are as follows:

- Supervisor
- Operator
- Helper
- Senior Management
- Accounts
- Quality Control

An analysis of the employment pattern reflect that for 84 percent of the surveyed firms operators and helpers constitute 70 or more percent of their total employees. However, for supervisory role 95 percent of the firms have recruited less than 10 percent of their total work

force. Interestingly, except for one firm out of the total respondents, all have recruited people at the designation of supervisor. Only 15 percent of the respondent firms have no one recruited separately for accounts work. The share of senior management for more than half of the surveyed firms remains less than 10 percent. It should be noted that only 44 percent of the firms have personnel separately recruited for quality control or as lab chemist.

Workforce Distribution: Core and Non- Core

The proportion of employees engaged in administrative and managerial work is not very significant in rubber products manufacturing firms across all segments. More than 90 percent of the firms surveyed are hiring 80 percent or more of their total employees in the production section. Moreover, the trend is in line with the findings related to the key job roles for employment in this sector.

Table 2.5: Recruitment in Core Production Activity

Recruitment in Core Functions of Production	Surveyed Firms (%)
90% and above	19
80 to 90 %	69
70 to 80 %	3
60 to 70 %	3
50 to 60 %	3
NR	3

Educational Profile

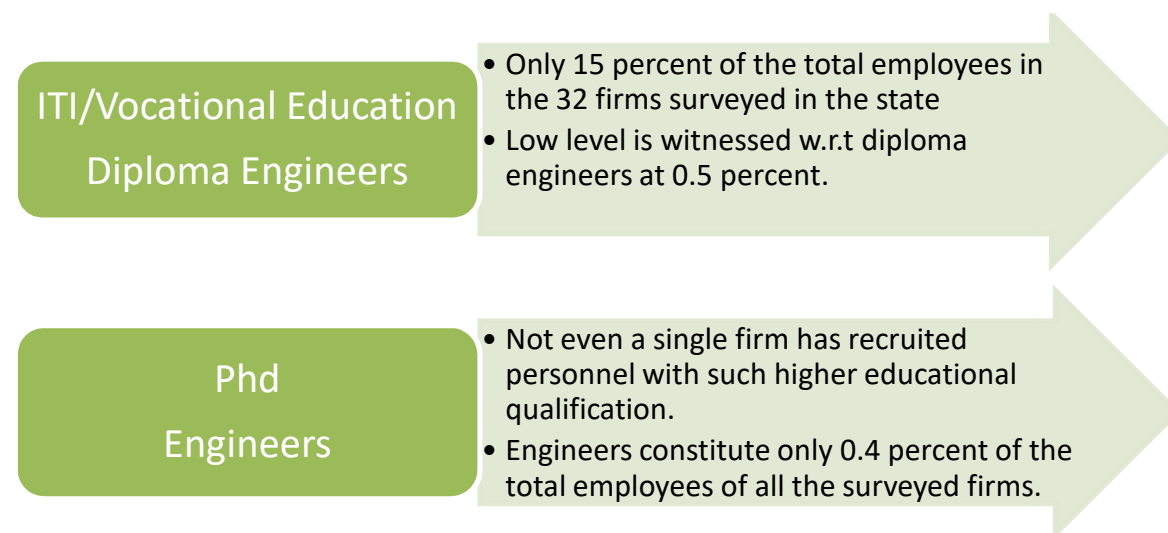
It is assumed that the skills do have a strong correlation with the educational background of the workers and considering that this section highlights in detail the present scenario of the educational status of the workers employed in the rubber industry in the state of Delhi. Only one of the total surveyed firms have all the employees who are metric pass and hold higher educational qualification. It is interesting to note that more than half of the total respondent firms (53 percent) have 60 percent or more employees who are not even metric pass.

Table 2.7: Educational Concern

Percentage of employees below 10th standard	Surveyed Firms %
Less than 40 percent	34
40-60 percent	6
60-80 percent	53

80-100 percent	3
None	3

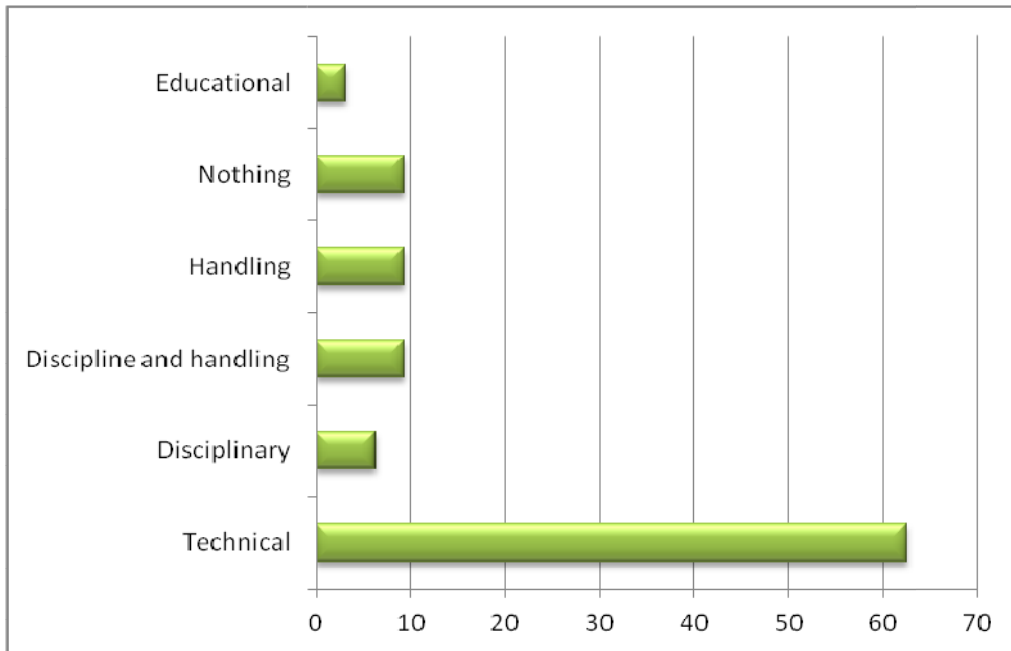
It is important to note that the industry employment which should focus on vocational and specialized education however the ground reality shows that merely 19 percent of the total number of firms engaged in the rubber products manufacturing have hired ITI/vocational educated personnel. Similar is the case with the diploma holders. Only two firms have 15 percent of their employees who are diploma holders. Also, there is not even a single firm which hires highly qualified personnel in the research department. The presence of Engineers in the rubber manufacturing units is negligible, not even accounting for 0.5 percent of the total number of employees. Graduates working in the rubber manufacturing units are mainly associated with the accounts, marketing, quality assurance and management department.



Missing Skills

Those who responded to the query related to the skills that the industry find missing in their employees believed that the workers lack technical skills in this industry badly whether it is a tiny, small or medium scale organization. An important area of concern that they reported relates to the disciplinary skills which is more related to the personality trait than being specific to a particular industry. As the employees mainly gain knowledge on the job which has been highlighted throughout in the survey responses, the weakness on the part of material handling seems to be another area of concern.

Fig 2.5: Missing Skills Scorecard (%)



Skill Gap

For various job roles, the skill gap prevalent in the rubber industry in the capital city is analyzed in detail in the next section segment wise. However, an overview of the common skill gap reported at the two most important levels is given below.

Operator Level

- Lack of understanding in the maintenance work of the machine therefore unable to fully contribute to the machine maintenance
- All the technical expertise gained is through shop floor work.
- Lack of formal training on the machine
- Does not know the reason why chemicals/materials are added in particular format/proportion
- Technical and operational knowledge is missing
- Management guidance required for every new process
- Understanding difficulties on what happens if there is slight variation in the raw material used.
- Lacks capability to find faults in the product
- Unable to perform multiple tasks

- Needs constant guidance for the maintenance of various parameters of machines

Supervisor Level

- No formal knowledge on the chemicals and raw material used
- Lack of technical certification.
- All the knowledge of the floor activities gained through long experience.
- No theoretical knowledge
- Lack of knowledge related to latest technology
- No formal training

Regional/State level Variation in Skill Gap

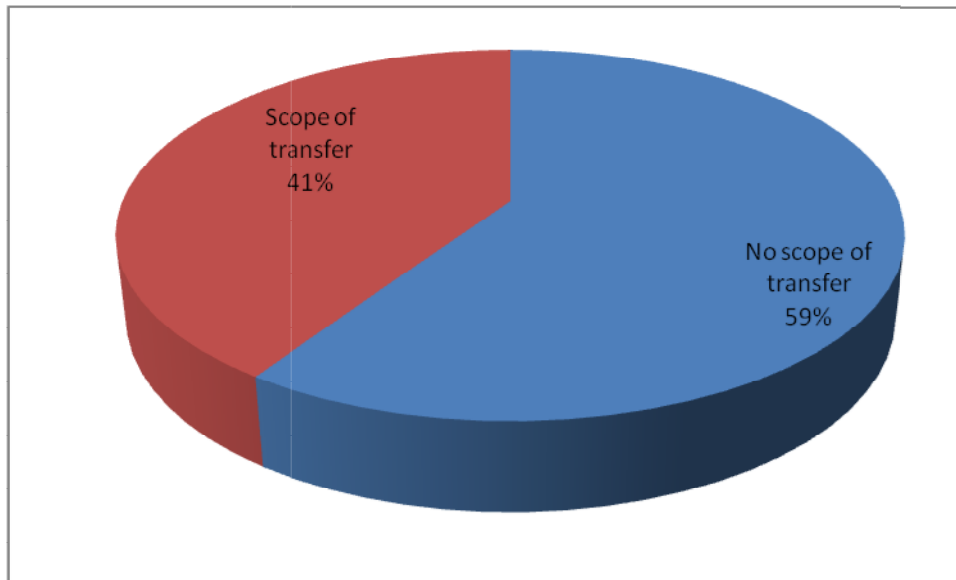
Around 88 percent of the surveyed firms have not witnessed any the regional/state level variations in the skill gap. Therefore, the responses do not guide towards any inter-state variations in skill issues among different states.

Role Transfer

Transfer of roles in the factory premises basically mean that a person recruited for performing a particular job role is also performing the other roles. The survey results indicate that the two fifth of the respondents admits that there exist a scope of transferring role among employees. Two firms clearly mentioned that such role transfer takes place only in case of emergency. However, those who have denied the existence of such phenomenon in their factory premises belongs to tiny, small as well as medium scale units of the industry in the city. In other words, the person specific role is not related to the size of the organization as reflected by the 59 percent respondents.

Such arrangements in the firms points towards an important finding while we discuss the skill gap issue in our present analysis, that is , employees have the capability of performing more than one role then can't we call is as multi skill employees. Then where is exactly the skill gap, here we have a reservoir of skills but the fact is that the employees are not trained to perfection in one role and upgraded on regular basis but use their services in multiple roles in adhoc manner.

Fig 2.6: Scope of Transferring Role



Training

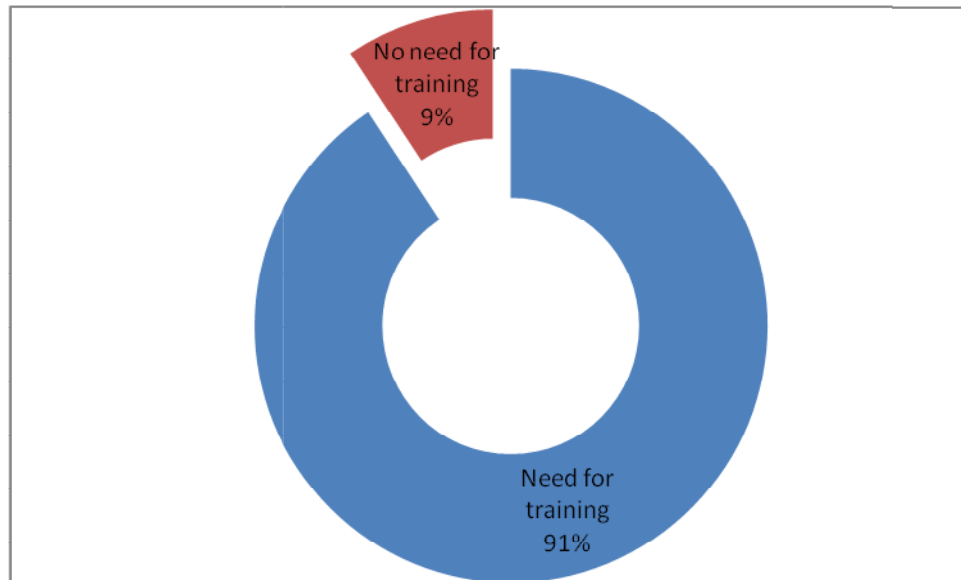
Out of the 32 firms, only one of them has a separate training department for their employees. It is a medium scale firm which has indicated separate resources especially for training their employees. This clearly indicates less interest shown by the organization in allocating separate resource for training the employees. However, the following chart depicts the persons who are mainly engaged in providing in house training to the work force working in the rubber products manufacturing units:

Although majority of the firms do not have any separate training department, they provide training to the employees by utilizing their in-house resources. It has been noted that in the smaller organizations experienced workers mainly take up the responsibility of training the new employees in the organizations. Here, the attitude on the part of the organizations too does not reflect an encouraging trend towards resolving the issue of technical skills.

Requirement for Training

Although majority of the firms do not allocate specific resources for training department, those who responded to the requirement for training agreed unanimously that there is a sheer need for training the employees. However, only few organizations clearly outlined the roles for which there is specific requirement for training. Among the various job roles, the requirement for operators' training emerged as the top priority for training requirement.

Fig 2.7: Training Requirement



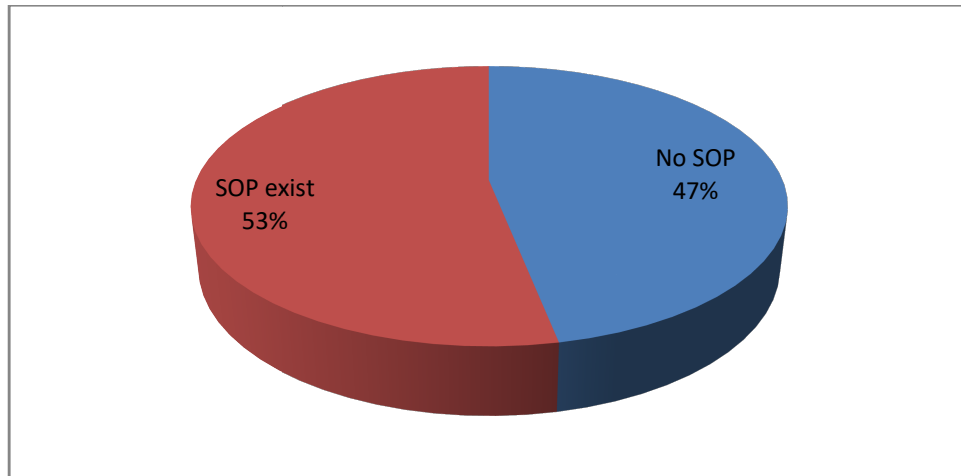
Training Institutes

Regarding the association of rubber products manufacturing firms of different segments with the training institute, the survey results present a significant observation that 100 percent of the surveyed firms have no direct relation with the training institutes. Most of the firms have not tried to contact any training institute. Some of the firms mentioned that the training is costly and they do not provide employee with specific job role.

Standard Operating Procedures (SOP)

Standard Operating Procedures are laid down by the firms to clearly list out the process to be followed at different levels in product manufacturing.

Fig 2.8: Status of SOPs

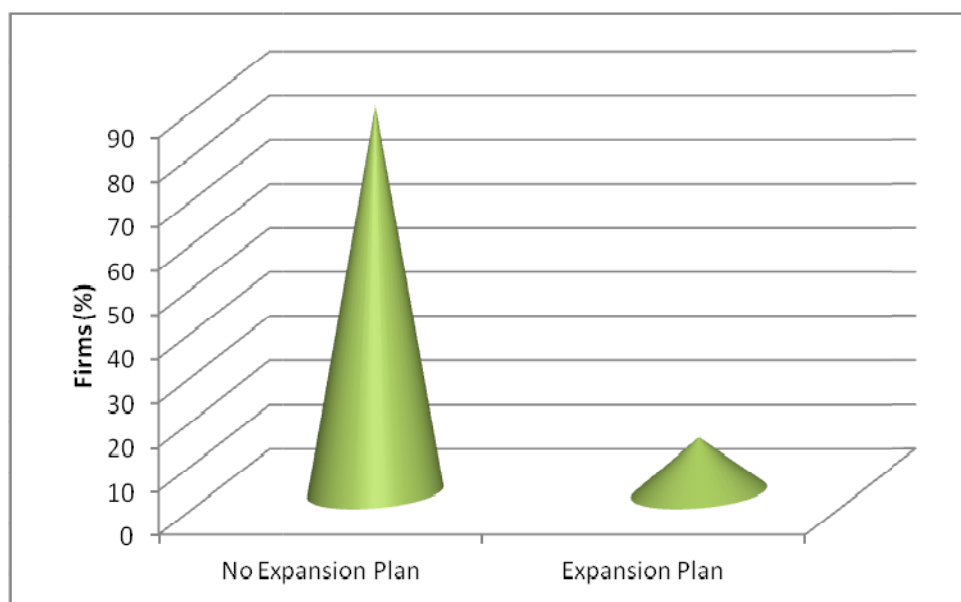


Around 47 percent of the organizations surveyed do not have Standard Operating Procedures at their units. Processes are carried out based on verbal instructions. Half of the respondent firms have SOP and they revise it at different time intervals. For firms following SOP, 29 percent of them revise it after six months and 6 percent based on the requirement. However, no response with respect to SOP revision is shared by 65 percent of the firms following SOP.

Expansion Plan and Skill Requirements

Expansion plans of the firms indicate towards the firm's vision in near future. Only one third of the surveyed firms reported that they have the future expansion plans.

Fig 2.9: Firms' Vision

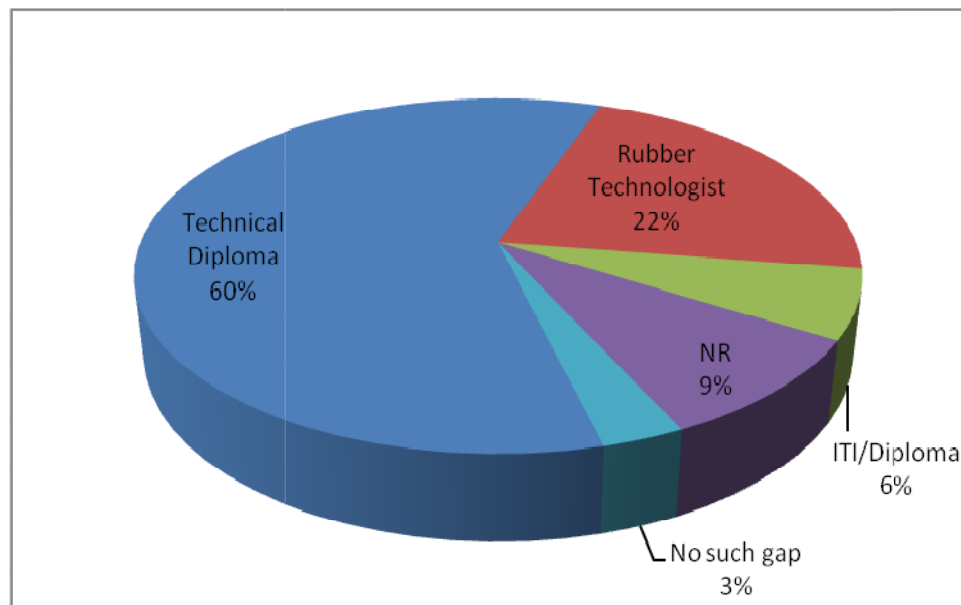


Those firms are either looking forward to expand same line of business, enter a new extending product line. Major change envisioned by the majority of firms in future relates to upgrading the technology moving from semi to full automation technology. Firms moving towards the technology upgradation will require skilled and trained manpower for handling automated machines.

Future Trends

Technical education is one area where most of the respondents feel that the educational level skill gap would emerge. Technical diploma that would be relevant for industry is seen as the main gap. It has been outlined very clearly by each of the surveyed firms that the employees working with them have gained the process and work knowledge through shop floor experience only. Within the various job roles associated with the rubber product manufacturing, 22 percent of the respondents clearly stated that Rubber Technologist would be main job work where skill gap would emerge in the coming five years.

Fig 2.10: Emerging Skill Gap: Education Level



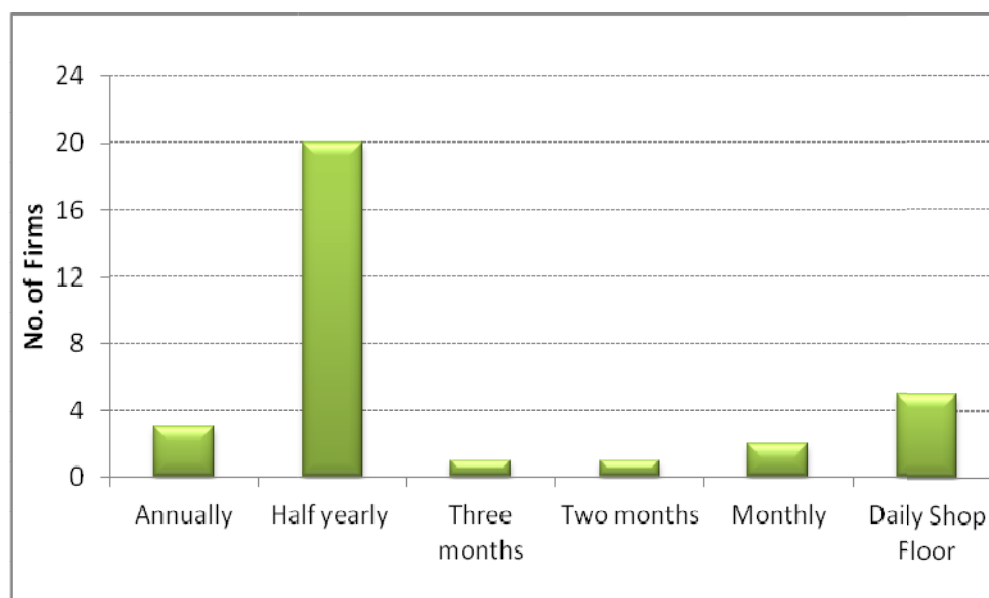
Skills vs Performance Review

Performance of any employee depends on the ability to perform the work assigned efficiently, effectively and in timely manner. However, the output is important but the review of the performance is no less significant to develop and maintain new and existing skills. Performance review depends greatly on how one measures the output of the worker.

Table 2.8: Workers Task

Workers Output Measurement Parameter	Firms (%)
Quantity produced	81
Weekly comparison of output	10
Time spent on shop floor	3
No Response	6

Six percent of the firms have not responded to the way they measure the output of their workers whereas those who have shared their method regarding the output measurement disclosed that it is mainly by the way of quantity produced on daily basis. Only 10 percent of the firms surveyed mentioned the comparison of weekly output as an output measurement technique whereas for 3 percent of the respondent firms it the time spent by the workers on the shop floor which forms the main component of output measurement by them.

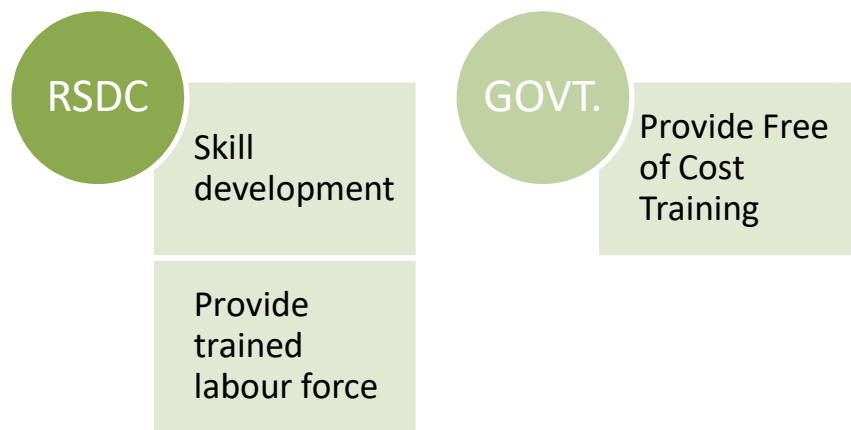
Fig 2.11: Performance Review

All the surveyed firms have shared their process or method of reviewing their workers performance. Performance review of the workers takes place at different time intervals. However, nearly two third firms review the workers performance on half yearly basis. Few firms carry out the performance review on annual and monthly basis which are all engaged in the production of footwear.

Stakeholders Actions

To address the skill gap issue in the rubber industry in the state of Delhi, the respondents from the different product segments have suggested the Rubber Skill Development Council (RSDC) to play a significant role in providing the skilled and trained labour force for this industry. However, the firms did not share any role for educational institutes and have not shown any interest in their participation in skill development for rubber sector. An important suggestion that has emerged from the survey findings for governments role is to provide training should be provided free of cost.

Fig 2.12: Suggestions

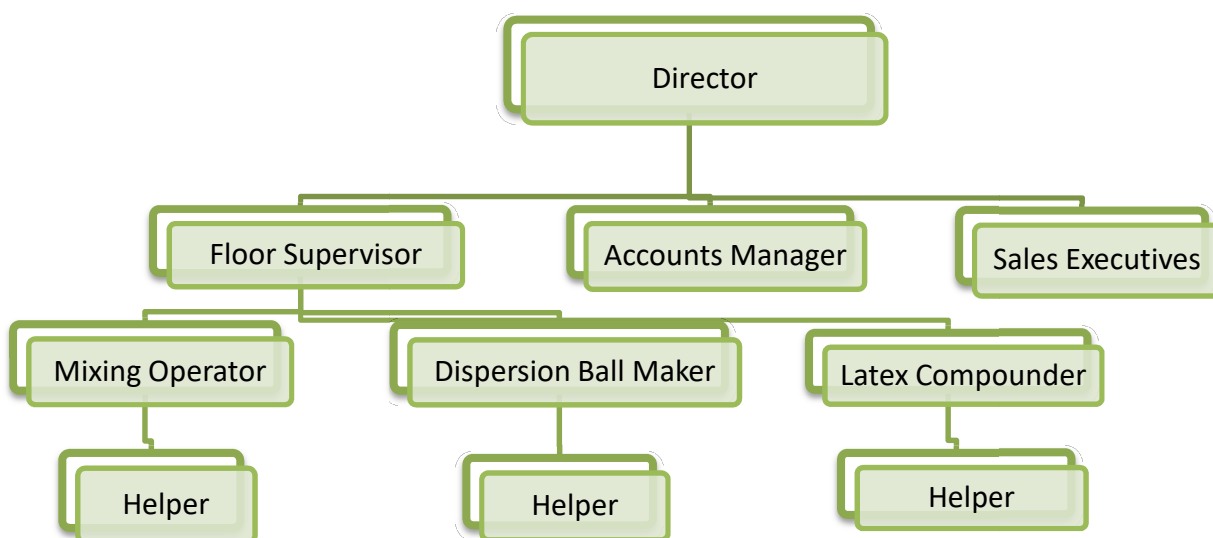


PRODUCT SEGMENT WISE ANALYSIS

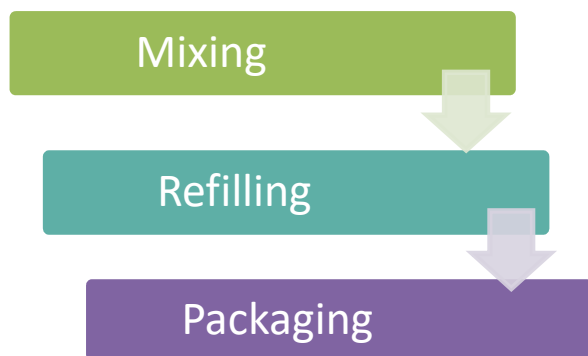
Adhesive

The survey findings reveal that the main issue with human resource faced by the firms engaged in the adhesive manufacturing segment is that the labour is not ready to do hard work. The main job requirement is for mixing mill operator, dispersion ball maker, latex compounder and helpers. All the surveyed firms in this business line operating for more than 20 years have recruited all their employees from the city itself.

Organization Structure



Process Outline:



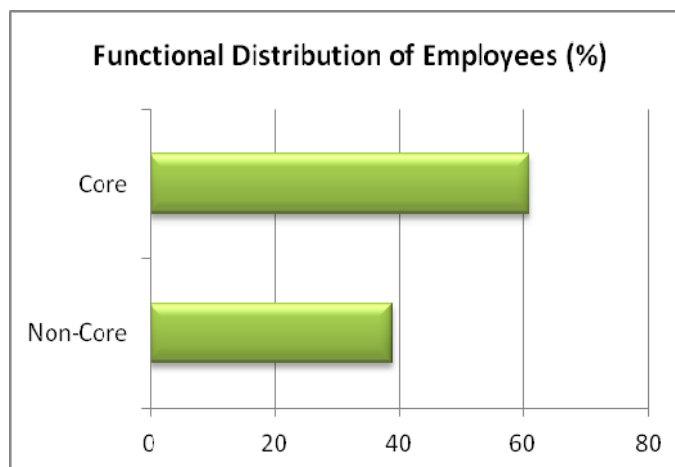
The operations at the small scale firms employing 20 or less than 20 workers depicted simple manufacturing process. All raw materials are mixed and then chemical reagents are added to it. After mixing the compound, it forms a viscous liquid which then goes for refilling. The refilling of the liquid adhesives takes place into different containers. Packing is done by helpers and made ready to deliver.

Sample Units	Tiny	Small	Medium	Large	Total
Adhesive	-	1	-	-	4*

* Three firms did not disclose their investment levels, however the number of employees (i.e. less than 20) indicate the small scale level.

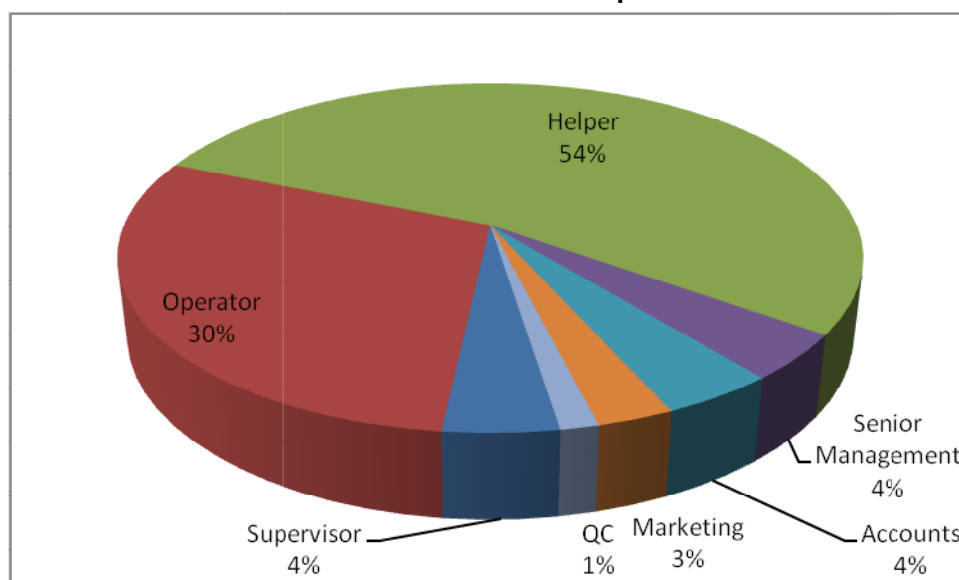
Manpower at a glance

All the employees in the adhesive producing firms are on roll employees, except for one firm hiring two fifth of its employees on roll and remaining off roll. The main source of recruitment is through employee's reference. The proportion of employees engaged in core and non-core activities highlight the participation of proprietor and presence of accounts person in smaller unit making core segment employee

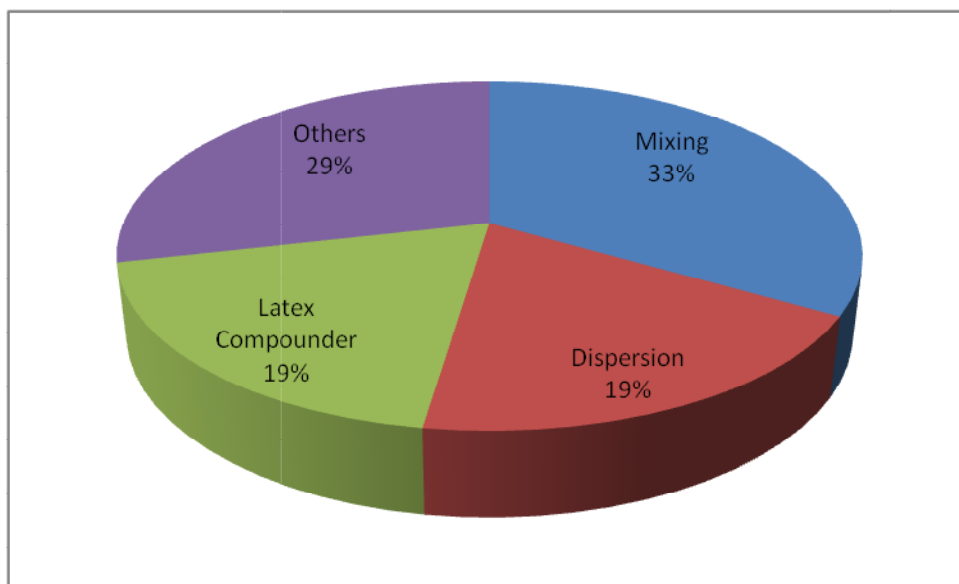


constitute only 60 percent of the total employees engaged in the four respondent firms. In three out of four firms, 80 percent of their employees have passed ITI/vocational education. However, no engineers are hired by these firms. Moreover, each of the respondent firms feels that there is no scope for transfer of roles in the activities carried out by the workers in their units. The respondent firms mainly hire local people.

Job Role Distribution in Sample Units



Operator Level Distribution



Main roles for operators relates to Mixing, Dispersion Ball Maker and Latex Compounder in adhesive segment. Others category include operators who are engaged in the other line of business for a firm engaged in manufacturing of foam product as well in addition to adhesives.

Educational Qualifications (% of total employees)

Educational Qualification	Small
Ph.D/Research	-
Engineers	-
Graduate	4
Diploma Engineers	-
ITI/Vocational Education	58
XII/X/School Education	16
Below Xth standard	22
Others (CA, CS, ICWA, MBA etc.)	-

Training

Training is mainly provided on the job for different functions in one unit while others do not feel any training need for their employees. No specific training departments are in existence as well as there is no association with training institutes which implies that this segment of rubber industry in Delhi is delivering training in an unstructured manner.

Main Roles and Skill Gap

1. Mixing Mill Operator

<u>Mixing Mill Operator</u> <ul style="list-style-type: none">• Mixing the correct (indicated) proportion of inputs.• Operate the mixing machine• Regular maintenance of the machine• Work for long hours at high temperatures• Guide the helper	Skill Gap			
	Tiny	Small	Medium	Large
		<ul style="list-style-type: none">•Lack basic technical knowledge of properties of various inputs.•Works based on experience.•No formal technical training.•Lacks capability to find faults in the product		
<u>Skill Gap Intensity: Medium</u>				
Skills Required				
Technical Skills:				
<ul style="list-style-type: none">• Identifying the different inputs• Understand the importance of each raw material• Knowledge of operating the m/c• Technical Knowledge of each input.				

- Ability to communicate with the plant in-charge in case of any faults or technical issues

Managerial skills:

- Guiding the helpers for routine work
- Manage the helpers
- Ability to take decisions
- Motivate peers and subordinates
- Team spirit

Soft Skills:

- Good communication skills
- Good listening skills.
- Understanding skills for performing work quickly

2. Dispersion Ball Maker

<u>Dispersion Ball Maker</u> <ul style="list-style-type: none"> • Operate the machine skillfully • Quantity of feed entered should be known • Make Zero defect products 	Skill Gap			
	Tiny	Small	Medium	Large
		<ul style="list-style-type: none"> • No proper safety equipments usage. • Communication gaps observed between workers 		

Skill Gap Intensity: Medium

Skills Required

Technical Skills:

- Identifying the different inputs
- Understand the importance of each raw material
- Knowledge of operating the m/c

- Technical Knowledge of each input.
- Ability to communicate with the plant in-charge in case of any faults or technical issues

Managerial skills:

- Guiding the helpers for routine work
- Manage the helpers
- Ability to take decisions
- Motivate peers and subordinates
- Team spirit

Soft Skills:

- Good communication skills
- Good listening skills.
- Understanding skills for performing work quickly

3. Latex Compounder

<u>Latex Compounder</u>	Skill Gap			
	Tiny	Small	Medium	Large
a. Prepare compounds as per formulation.				
b. Guiding the helpers in unloading /loading.		•Lacks speed in work		
c. Add additives and chemical in sequence and manner guided by the supervisor/proprietor.		•Doing work unhygienically		
d. Switch on the machine and the clock the cycle which has been set by the supervisor/proprietor.		•Lacks discipline		
e. Maintain the machine				
f. In case of any issues raise alarm to the supervisor/proprietor				
g. Maintain the safety aspects as shared by the supervisor				

<p>h. Follow the standard operating procedures of each operations with respect to latex compounding</p> <p>i. Prepare batch sizes as per the daily productions needs</p> <p>j. Determine the cure characteristics of compounded latex and its adjustments and controls at a critical condition.</p> <p>k. Allocate Batch / Lot numbers of the compounding done for traceability.</p> <p>l. Proper control utilities, viz, water, electricity, compressed air, weighing scale etc.</p>				
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Intensity of Skill Gap: Medium

Skills Required

Technical Skills:

- Knowledge of various latex applications and its compounding
- Knowledge of proper compound mixing & preparation of dispersion and solutions
- Knowledge of quality certified products
- Remove the material from the mixers with the guidance of the proprietor
- Maintain the temperature, rotation of the mixers and the as per guidance of the proprietor

Managerial skills:

- Do as directed by the quality analyst and floor supervisor
- Good understanding skills

Soft Skills:

- Good communication skills

4. Helper

<u>Helper</u> <ul style="list-style-type: none">• Weight the adhesive and fill it into respective drum or cans & pack it.• Put it at proper storage area• Load the unloading of drums• Works as directed by proprietor	Skill Gap			
	Tiny	Small	Medium	Large
		<ul style="list-style-type: none">•No formal technical training•Lack proper work experience•Responsible for high wastage		

Intensity of Skill Gap: Medium

Skills Required

Technical Skills:

- Perform all the work as directed
- Ability to communicate with proprietor
- Able to weight the chemicals
- Knowledge of metric system
- Remove the impurity from the rubber in line with the guidance of the supervisor
- Maintain the temperature of the latex and the solutions as per guidance

Soft Skills:

- Basic communication skills

5. Supervisor

<u>Supervisor</u> <ul style="list-style-type: none">• Manage the shop floor activities.	Skill Gap			
	Tiny	Small	Medium	Large

<ul style="list-style-type: none"> • Responsible for running of unit and production • Planning for production schedule • Understand the end user requirement and design processes to incorporate the customer needs in the final product. • Manage the workers • Get involved in the quality control • Get involved in decision making process • 		<ul style="list-style-type: none"> • No formal technical training • Works based on experience • Lack of knowledge of latest technology 		
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Intensity of Skill Gap: Medium

Skills Required

Technical Skills:

- Knowledge of the rubber industry
- Knowledge of basic properties chemicals, additives used, etc used in production process
- Knowledge about the machines and their operation
- Ability to measure dimensions using industrial measuring instruments
- Power to recognize error

Managerial Skills:

- Should be able to supervise the team and guide them so that quality is maintained
- Ability to schedule work and manage time
- Ability to motivate workers.

Soft Skills

- Effective communication skill
- Interact with workers, superiors and external parties

6. Accountant

<u>Accountant</u> <ul style="list-style-type: none">• To perform the various documentation functions.• To assist the marketing, purchase, HR and accounts function as and when required.• To communicate with the external parties.• Keep accounting record updated.• Taking approval for expenses.• Prepare account statement and share with director	Skill Gap			
	Tiny	Small	Medium	Large
		<ul style="list-style-type: none">• No skill gap manifested		

Skills Required
Technical Skills:

- Knowledge of various documents and their importance.
- Mathematical and accounting Skills.
- Ability to communicate in English language,
- Good IQ level.
- Knowledge of Tally and internet savvy

Soft Skills

- Effective communication skill
- Good presentation skills

7. Sales Executive

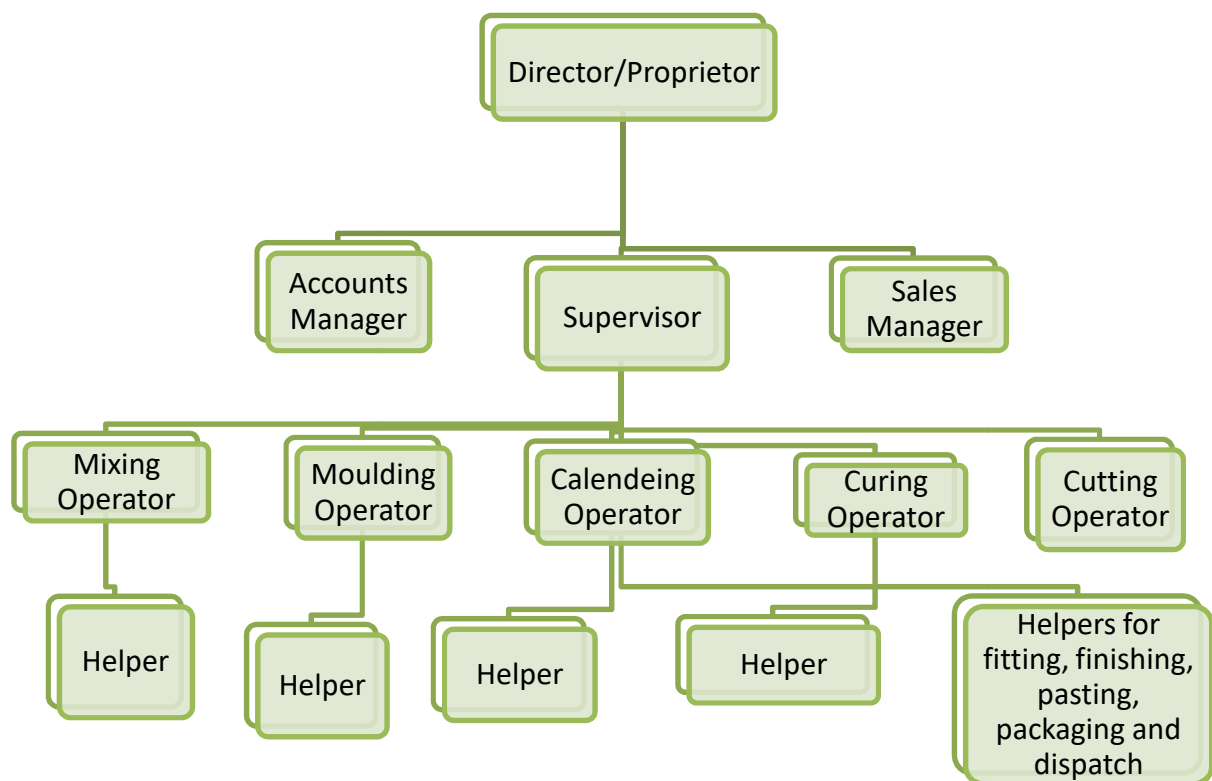
<u>Sales Executive</u> <ul style="list-style-type: none">• Identify sales ratio in given	Skill Gap			
	Tiny	Small	Medium	Large

region <ul style="list-style-type: none"> Forecasting sales and planning according it. Monitor sales person and give them target. 		<ul style="list-style-type: none"> No skill gap manifested 		
Skills Required Technical Skills: <ul style="list-style-type: none"> Knowledge of various products and sales strategy. Mathematical Skills. Ability to communicate in English language, Good IQ level. Soft Skills <ul style="list-style-type: none"> Effective communication skill Good presentation skills Good in negotiation and able to handle various parties to increase sales 				

Footwear

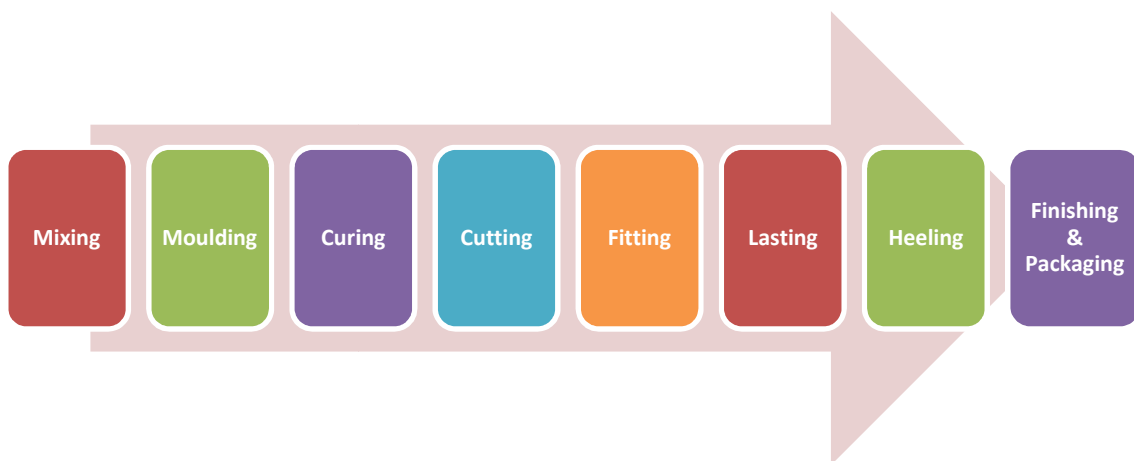
The survey findings reveal that there is a major requirement of operators and helpers in units preparing footwear (hawai chappal, sandals, shoes) constituting more than 80 percent of the total employees in the surveyed firms. However, the firms involved in the production of footwear has requirement for supervisory role as well for guiding operators, however there are very few firms engaging more than one supervisor in their units.

Organization Structure



Process Outline:

Compound is obtained by mixing the raw materials in a mixing and milling machine. Rubber strips are made to be put in the hydraulic press. Moulds or cavities are used to get the required shape of the end products. Hydraulic press is used for moulding the rubber into shoes. Hydraulic press requires setting the temperature, pressure and timing for the mould. Then, cutting of extra parts is done which are not required. Preparation of sole and attachment of upper to the sole is carried out. Then, helper attaches and shapes heel bottom to final form. The finished products are then packed and made ready to deliver. Accessories are added which makes shoes look better.

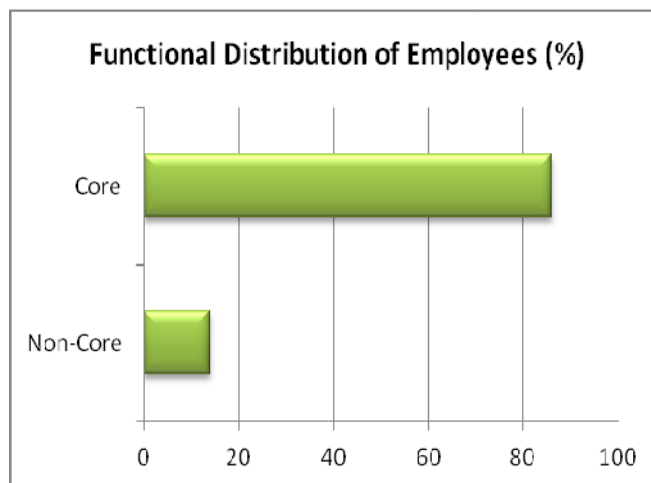


Sample Units	Tiny	Small	Medium	Large	Total
Footwear	-	7	2	-	11*

*Two firms have not disclosed their investment levels

Manpower at a glance

In Delhi, there are 100 percent on roll employees in the surveyed units producing footwear. Majority of the employees are engaged in the core production activity, only 14 percent of the total employees are taking up the administrative, accounting and managerial tasks. In these units covered in the sample, the employees sourcing strategy is through employee's

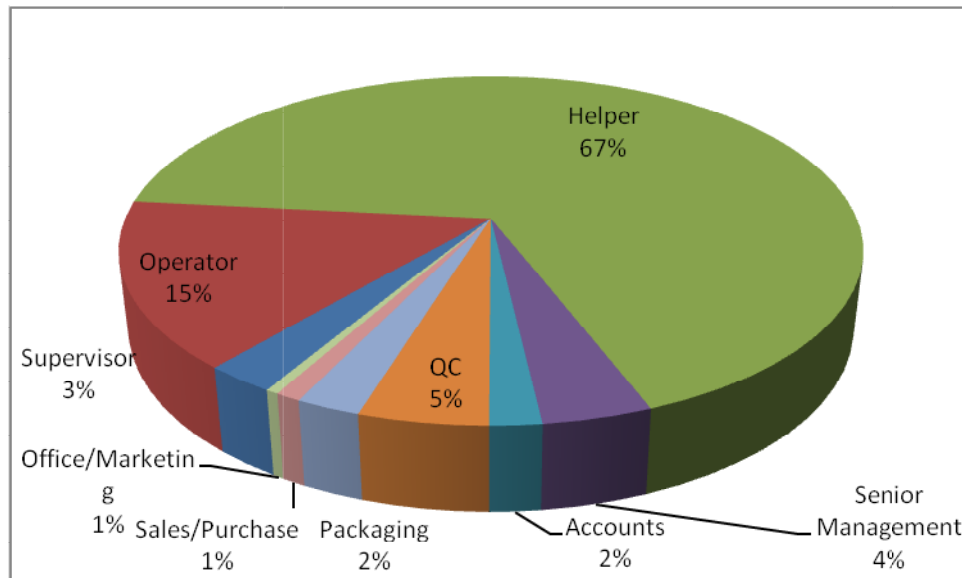


reference, direct interview and newspaper advertisements. Moreover, all the respondent firms mentioned that they experience very low rate of attrition that is less than 5 percent in their manufacturing units. Salary payment as per government rule and labour law, increment, bonus, facilities and insurance are among the strategy followed by the firms to retain the workers with them for longer duration. Half of the respondent firms feel that there is a scope for transfer of roles in the activities carried out by the workers in their units; while others do not mentioned any such role transfer in their manufacturing units for workers.

The respondent firms have smaller or larger proportion of the workforce coming from outside Delhi. The main states from where workers have come to work in Delhi based footwear producing units are Uttar Pradesh, Bihar, Odisha and Karnataka. However, the major chunk is arriving from Uttar Pradesh. One firm has hired all its employees from UP only, whereas for

other firms the contribution from outsiders ranges between 20 to 50 percent of the total employees.

Job Role Distribution in Sample Units



Educational Qualifications (% of total employees)

Educational Qualification	Small	Medium
Ph.D/Research	-	-
Engineers	-	10
Graduate	9	-
Diploma Engineers	-	15
ITI/Vocational Education	6	-
XII/X/School Education	22	60
Below Xth standard	60	15
Others (CA, CS, ICWA, MBA etc.)	3	-

Training

Training department is not in existence for any of the firms surveyed in the footwear segment. Sixty percent of the responding firms highlighted that they provide on the job training and no separate department is allocated for training. However, the firms hold that there is a skill gap on part of workers with respect to technical knowledge, discipline and proper handling of material and machines.

Main Roles and Skill Gap

1. Mixing Operator

<u>Mixing Operator</u> <ul style="list-style-type: none">Guiding the helpers in unloading the material into the mixing machine.Work on mixing machine and mixing mill.Add additives and chemical in sequence and manner guided by the supervisor.Switch on the machine and the clock the cycle which has been set by the manager/supervisor.Operate Mixing machine properlyMaintain the machine parameters i.e, temperature & pressureCleaning the machine after each process.Checking the safety while working on the machine.Use safety measures to avoid injury	Skill Gap			
	Tiny	Small	Medium	Large
		<ul style="list-style-type: none">Lack of basic technical knowledge of properties of various inputs.Works based on experience.Lacks capability to find faults in the productNo formal technical training	<ul style="list-style-type: none">No formal technical trainingLack of basic technical knowledge of properties of various inputs.Works based on experience.Lacks capability to find faults in the product	
<u>Skill Gap Intensity: Medium</u>				
Skills Required				
Technical Skills:				
<ul style="list-style-type: none">Operating the machine skillfully and taking due care while working.Identify the operation of the machine at hand.				

- Know the chemical and additives which need to be added.

Managerial skill:

- Good communication skills for guiding helpers.
- Ability to take decision.
- Ability to communicate with the plant in-charge in case of any faults or technical issues

Soft Skills:

- Basic metric system to identify the numbers on the screws needed to be tightened.

2. Moulding Operator

<u>Moulding Operator</u> <ul style="list-style-type: none"> • Operate the moulding machine skillfully. • Checking that the moulds are properly fixed • Maintaining the temperature of the machine which has been set by the supervisor. • Maintain the machine. • Take care of safety while working on the process as per org. guidelines.(as the temperature is very high) 	Skill Gap			
	Tiny	Small	Medium	Large
		<ul style="list-style-type: none"> • No formal technical training. • Lacks capability to find faults in the product 	<ul style="list-style-type: none"> • No use of any safety equipments. • Wastage is very much. • One worker is doing many works. • Equipment maintenance is done after long time • Communication gap between workers 	
<u>Skill Gap Intensity: Medium</u> Skills Required Technical Skills:				

- Good knowledge of machine and its operation.
- Change the moulds with the guidance of the supervisor
- Molding is carried out at high temperature so safely handling is necessary with a necessary safety equipments

Managerial skill:

- Good communication skills for guiding helpers and coordinating with other operators.
- Ability to get work done by helpers.
- Motivate co-workers
- Efficient and always tries to minimize the waste

Soft Skills:

- Good knowledge of metric system (time, temperature, pressure)
- Good reading skills

3. Curing Operator

<u>Curing Operator</u>	Skill Gap			
	Tiny	Small	Medium	Large
<ul style="list-style-type: none"> • Operate the machine carefully • Attachments are produced upper to the sole. • Attachments should be accurate. • Handling should be done carefully because the material is very hot. • Use safety measures to avoid injury. • Work efficiently under high temperature. • Maintaining the temperature of the machine. • Maintain the machine. 		<ul style="list-style-type: none"> • Safety is foremost thing in which the worker lacks. • Wastage seen was very much. • Coordination between workers and helpers was 	<ul style="list-style-type: none"> • Not a professionally trained worker • Lacks capability to find error in products • No safety equipments is used by any workers. • Wastage is 	

<ul style="list-style-type: none"> Take care of safety while working on the process as per org. guidelines.(as the temperature is very high) 		<p>poor.</p> <ul style="list-style-type: none"> One worker performs many works. 	<p>high</p> <ul style="list-style-type: none"> Maintenance of equipment is negligible 	
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Skill Gap Intensity: Medium

Skills Required

Technical Skills:

- Good knowledge of machine and its operation.
- Identifying the correct input
- Able to understand the importance of raw material
- Knowledge of various controls of the vulcanizing oven.
- Knowledge of impact of temperature, duration of exposure to heat on the final product's properties

Managerial skill:

- Good communication skills for guiding helpers and coordinating with other operators.
- Ability to get work done by helpers.
- Motivate co-workers
- Efficient and always tries to minimize the waste

Soft Skills:

- Good knowledge of metric system (time, temperature, pressure)
- Good reading skills
- Communicate with others workers properly.

4. Calendaring Operator

<u>Calendaring Operator</u>	Skill Gap			
<ul style="list-style-type: none"> Operate the machine carefully 				
	Tiny	Small	Medium	Large

<ul style="list-style-type: none"> • Calendaring done should be efficient with less wastage. • Safety equipments should always be taken. • Should be efficient in work • Maintain the machine. 		<ul style="list-style-type: none"> • No safety equipments are used. • Worker is trained on shop floor itself. • No technical knowledge 	<ul style="list-style-type: none"> • No safety equipments are used. • Worker is trained on shop floor itself. • No technical knowledge 	
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Skill Gap Intensity: Medium

Skills Required

Technical Skills:

- Good knowledge of machine and its operation.
- Able to work under high temperature and pressure
- Minimize waste and increase productivity

Managerial skill:

- Good communication skills for guiding helpers and coordinating with other operators.
- Ability to get work done by helpers.
- Motivate co-workers

Soft Skills:

- Good knowledge of metric system (time, temperature, pressure)
- Good reading skills

5. Cutting Operator

<u>Cutting Operator</u>	Skill Gap			
<ul style="list-style-type: none"> • Performing the work of cutting 				
	Tiny	Small	Medium	Large

the cured sheet with dye by hydraulic cutting machine <ul style="list-style-type: none"> • Cut the flash skillfully • Work with speed and accuracy • Must have correct understanding of dimensions • Very accurate in his work. 		<ul style="list-style-type: none"> • Trained on shop floor • No technical training • Lack of attention 		
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Skill Gap Intensity: Medium

Skills Required

Technical Skills:

- Good knowledge of cutting tools/machine and its operation.
- Minimize waste and increase productivity

Managerial skill:

- Good communication skills for guiding helpers and coordinating with other operators.

Soft Skills:

- Good knowledge of metric system (time, temperature, pressure)
- Good reading skills
- Good finishing and presentation skills

6. Helper (Machine Operations, Finishing, Packaging)

<u>Helper</u>	Skill Gap			
	Tiny	Small	Medium	Large
<ul style="list-style-type: none"> • Shift the material from the different process (i.e. kneading to mixing to press to cutting to packing to storing) • Clean the shop floor as when guided by the supervisor. • Loading and unloading the rubber into the mixing mill 		<ul style="list-style-type: none"> • Lacks technical knowledge • No Formal training 	<ul style="list-style-type: none"> • Lacks proper experience • High wastage 	

<ul style="list-style-type: none"> • Movement of material, semi finished and finished product • Packing the footwear in respective packing material. • Do all work as directed by the supervisor 				
<p><u>Intensity of Skill Gap: Low</u></p> <p>Skills Required</p> <p>Technical Skills:</p> <ul style="list-style-type: none"> • Proper finishing and packaging • Do all the work as directed • Remove the moulds from the rubber in line with the guidance of the supervisor • Ability to do work as guided by the operators and identify the products <p>Soft Skills:</p> <ul style="list-style-type: none"> • Number identification skills on the carton (footwear/chappal size) • Good reading skills 				

7. Supervisor

<u>Supervisor</u>	Skill Gap			
	Tiny	Small	Medium	Large
<ul style="list-style-type: none"> • Manage the shop floor activities. • Responsible for running of unit and production • Planning for production schedule • Understand the end user requirement and design processes to incorporate the customer needs in the final product. • Get involved in quality control 		<ul style="list-style-type: none"> • No formal technical training 		

Intensity of Skill Gap: Medium

Skills Required

Technical Skills:

- Knowledge of the rubber industry
- Knowledge of production process.
- Ability to measure dimensions using industrial measuring instruments.
- Ability to supervise plant operation
- Knowledge of the current trends in rubber technology

Managerial Skills:

- Should be able to supervise the team and guide them so that quality is maintained
- Ability to schedule work and manage time
- Ability to motivate workers.
- Ability to manage manpower on plant level.
- Leadership qualities

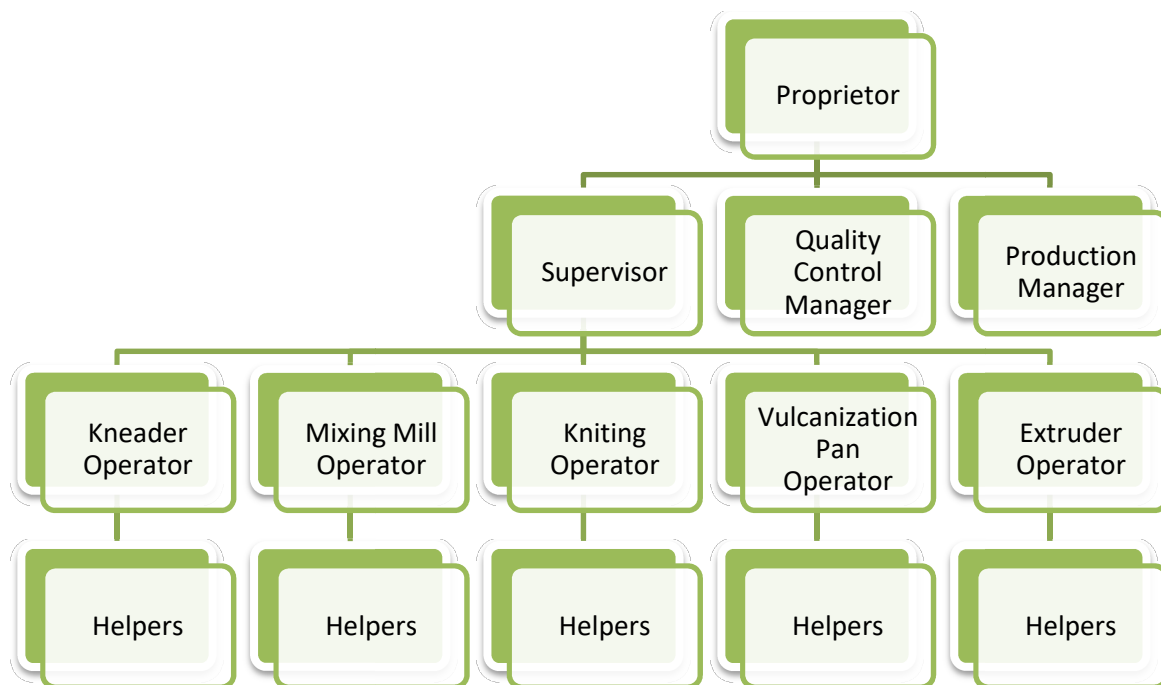
Soft Skills

- Effective communication skill

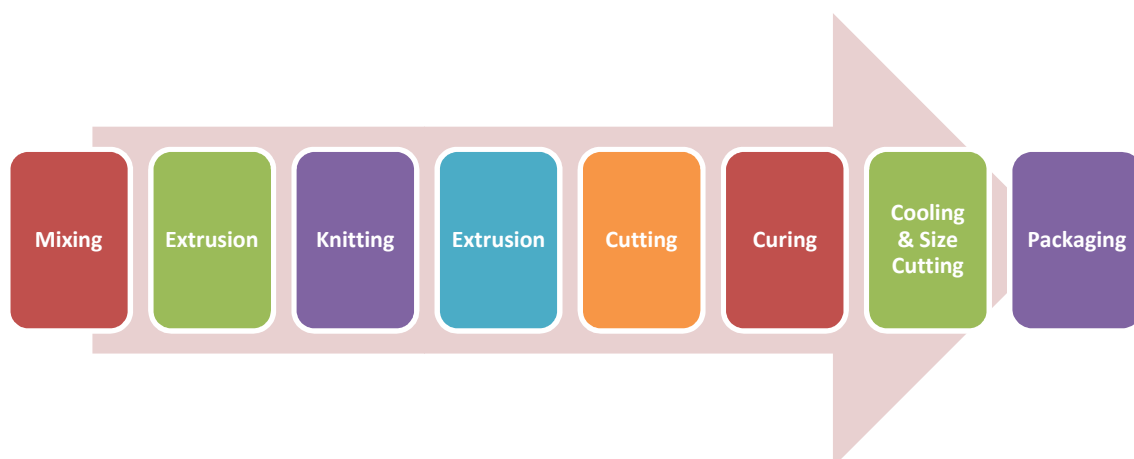
Cables

The survey findings reveal that the major change envisioned by the firms involved in production of cables is related to automation of production process. The main availability issue with respect to human resources will emerge on front of skilled manpower especially skilled operators.

Organization Structure



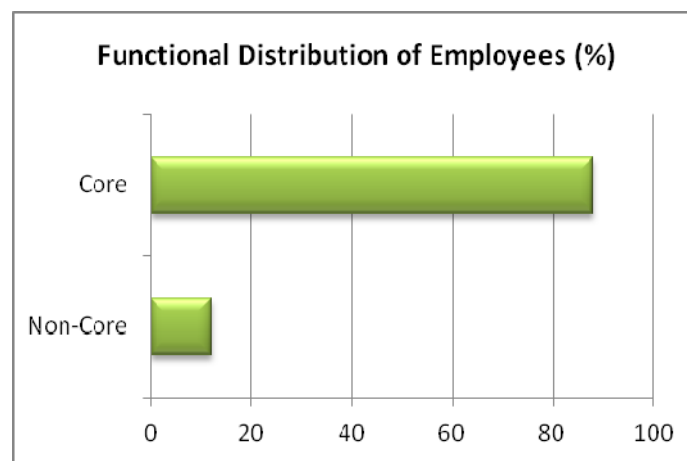
Process Outline:



Sample Units	Tiny	Small	Medium	Large	Total
Cables	-	3	-	-	3

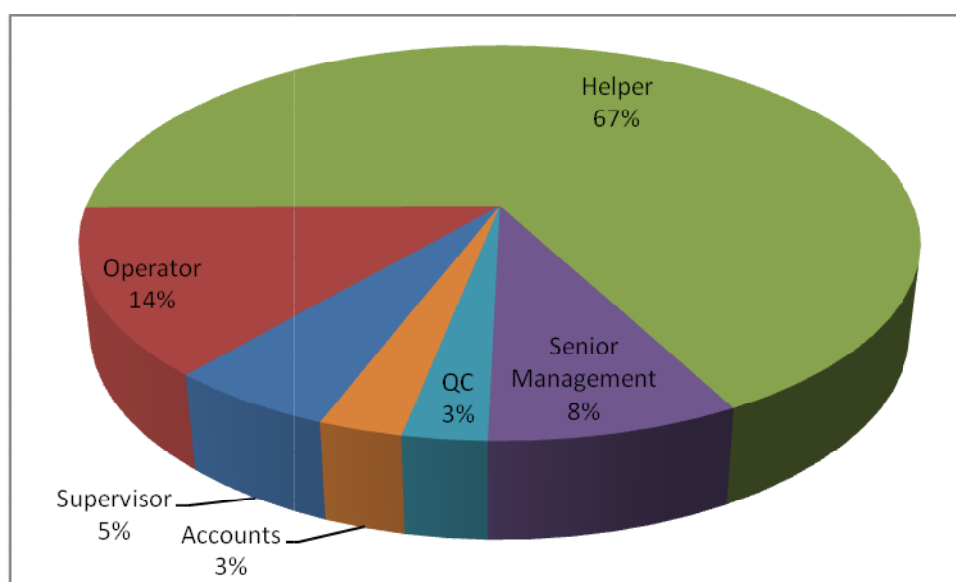
Manpower at a glance

All the employees in the cable producing firms are on roll employees. Majority of the employees are engaged in the core production activity, only 12 percent of the total employees are taking up the administrative and managerial tasks. In all the small scale units covered in the sample, the helpers' role constitutes 67 percent of the total employees in the firms. This indicates



greater requirement for helpers in the cable producing units. Moreover, the firms feel that there is no scope for transfer of roles in the activities carried out by the workers in their units.

Job Role Distribution in Sample Units



Educational Qualifications (% of total employees)

Educational Qualification	Small
Ph.D/Research	-
Engineers	-
Graduate	12
Diploma Engineers	-
ITI/Vocational Education	-
XII/X/School Education	22
Below Xth standard	66
Others (CA, CS, ICWA, MBA etc.)	-

Training

No specific training departments are in existence as well as there is no association with training institutes which implies that this segment of rubber industry in Delhi is delivering training in an unstructured manner. With respect to the training requirement, according to the firms, there is a need to train different operators.

Main Roles and Skill Gap

1. Kneader Operator

Kneader Operator	Skill Gap			
	Tiny	Small	Medium	Large
<ul style="list-style-type: none"> Operating the Kneader machine to mix the raw materials Mixing the chemicals and natural rubber in proper proportion Chemicals are mixed in proper proportions as stated by the management Keep machine clean and properly maintained Guide the helper 		<ul style="list-style-type: none"> Lack of technical knowledge of various chemicals and rubbers Lack of knowledge 		

		to operate the machine.		
Skill Gap Intensity: Medium Skills Required Technical Skills: <ul style="list-style-type: none"> • Good understanding of the machine at work. • Knowledge of identifying the chemicals to be added to raw material. • Putting the chemicals in sequence. • Basic maintenance of the machine (cleaning after each process) • Clocking the kneader machine as per the rotation time given by supervisor • Know the composition and required specification. • Visual inspection of the compound to understand the condition. • Avoid contamination of the compound. Managerial skills: <ul style="list-style-type: none"> • Good guiding skills for helpers so that wastage is minimal. • Attentive towards the work process. • Ability to take decisions. • Maintenance skill Soft Skills: <ul style="list-style-type: none"> • Knowledge of metric system like pressure temperature, time, to clock cycle • Basic reading skills • Good Communication skill 				

2. Mixing Mill Operator

<u>Mixing Mill Operator</u> <ul style="list-style-type: none"> • Guiding the helpers in 	Skill Gap			
	Tiny	Small	Medium	Large

unloading the material into the mixing machine. <ul style="list-style-type: none"> • Add additives and chemical in sequence and manner guided by the supervisor. • Switch on the machine and the clock the cycle which has been set by the manager/supervisor. • Maintain the machine parameters i.e, temperature & pressure • Cleaning the mill after each process. • Checking the safety while working on the machine. 		<ul style="list-style-type: none"> • No formal training • Not efficient in handling the machine operations 		
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Skill Gap Intensity: Medium

Skills Required

Technical Skills:

- Operating the machine skillfully and taking due care while working.
- Identify the operation of the machine at hand.
- Know the chemical and additives which need to be added.

Managerial skill:

- Good communication skills for guiding helpers.

Soft Skills:

- Basic metric system to identify the numbers on the screws needed to be tightened.

3. Extruder Operator

<u>Extruder Operator</u>	Skill Gap
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<ul style="list-style-type: none"> • Operate the extruder machine skillfully. • Checking that the safety aspects are followed • Maintaining settings of the machine which has been set by the supervisor. • Maintain the machine. • Take care of safety while working on the process as per org. guidelines.(as the temperature is very high) 	Tiny	Small	Medium	Large
		<ul style="list-style-type: none"> • No formal technical training. • Lack of interest 		
<p>Skill Gap Intensity: Medium</p> <p>Skills Required</p> <p>Technical Skills:</p> <ul style="list-style-type: none"> • Good knowledge of machine and its operation. <p>Managerial skill:</p> <ul style="list-style-type: none"> • Good communication skills for guiding helpers and coordinating with other operators. • Motivate team members <p>Soft Skills:</p> <ul style="list-style-type: none"> • Good knowledge of metric system (time, temperature, pressure) • Good reading skills 				

4. **Knitting Operator**

<u>Knitting Operator</u>	Skill Gap			
<ul style="list-style-type: none"> • Operate the Knitting machine to 	Tiny	Small	Medium	Large

reinforce over the tube <ul style="list-style-type: none"> • Proper cleaning of machine • Guide the helper • Maintaining settings of the machine which has been set by the supervisor. • Take care of safety while working on the process as per org. guidelines.(as the temperature is very high) 		<ul style="list-style-type: none"> • Lack of operational knowledge 		
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Skill Gap Intensity: Medium

Skills Required

Technical Skills:

- Good knowledge of machine and its operation.

Managerial skill:

- Good communication skills for guiding helpers and coordinating with other operators.
- Motivate team members

Soft Skills:

- Good knowledge of metric system (time, temperature, pressure)
- Good reading skills

5. Vulcanization Pan Operator

<u>Vulcanization Pan Operator</u>	Skill Gap			
	Tiny	Small	Medium	Large
<ul style="list-style-type: none"> • Curing the tube by putting the mandrel in vulcanization Pan • Curing of green tube have done as per the given specification • Proper cleaning and maintenance and cleaning of vulcanizer • Guide the helper 		<ul style="list-style-type: none"> • No formal technical training 		

<ul style="list-style-type: none"> • Properly maintain the machine, and report any issues to the Supervisor/Proprietor • Work for the proper upkeep of the machine 				
Skills Required Technical Skills: <ul style="list-style-type: none"> • Operating the machine skillfully and taking due care while working. • Proper curing of tubes • Should be able to follow the guidelines • Ability to manage waste Managerial skill: <ul style="list-style-type: none"> • Good communication skills for guiding helpers. • Guide the helpers Soft Skills: <ul style="list-style-type: none"> • Effective communication skill • Quick learner • Basic arithmetic 				

6. Helper (Machine Operations, Finishing, Packaging)

Helper	Skill Gap			
	Tiny	Small	Medium	Large
	<ul style="list-style-type: none"> • Shift the material from the different process (i.e. kneading to mixing to press to cutting to packing to storing) • Clean the shop floor as when guided by the supervisor. • Loading and unloading the rubber into the mixing mill • Packing the product in respective 	<ul style="list-style-type: none"> •Lack of technical knowledge •No formal training •Lack of knowledge 		

packing material. <ul style="list-style-type: none"> Do all work as directed by the supervisor/operator 		w.r.t latest technology		
<u>Skill Gap Intensity: Medium</u> Skills Required Technical Skills: <ul style="list-style-type: none"> Proper finishing and packaging Do all the work as directed Soft Skills: <ul style="list-style-type: none"> Basic numeric aptitude Good reading skills 				

7. Supervisor

<u>Supervisor</u> <ul style="list-style-type: none"> Manage the shop floor activities. Responsible for running of unit and production Planning for production schedule Understand the end user requirement and design processes to incorporate the customer needs in the final product. Get involved in quality control 	Skill Gap			
	Tiny	Small	Medium	Large
		<ul style="list-style-type: none"> No formal technical training 		
<u>Intensity of Skill Gap: Medium</u> Skills Required Technical Skills:				

- Knowledge of the rubber industry
- Knowledge of production process.
- Ability to measure dimensions using industrial measuring instruments.
- Ability to supervise plant operation
- Knowledge of the current trends in rubber technology

Managerial Skills:

- Should be able to supervise the team and guide them so that quality is maintained
- Ability to schedule work and manage time
- Ability to motivate workers.
- Ability to manage manpower on plant level.
- Leadership qualities

Soft Skills

- Effective communication skill

8. Accountant

Accountant	Skill Gap			
	Tiny	Small	Medium	Large
<ul style="list-style-type: none"> • To perform the various documentation functions. • To assist the marketing, purchase, HR and accounts function as and when required. • To communicate with the external parties. • Keep accounting record updated. • Taking approval for expenses. • Prepare account statement and share with director 		<ul style="list-style-type: none"> • No skill gap manifested 		
Skills Required				
Technical Skills:				

- Knowledge of various documents and their importance.
- Mathematical and accounting Skills.
- Ability to communicate in English language,
- Good IQ level.
- Knowledge of Tally and internet savvy

Soft Skills

- Effective communication skill
- Good presentation skills

9. Production Manager

<u>Production Manager</u>	Skill Gap			
	Tiny	Small	Medium	Large
<ul style="list-style-type: none"> • Responsible for running of unit and production • Planning for production schedule • Understand the end user requirement and design process • Performing the inspection of batches or samples for Quality Check Purpose • To identify defect if present in the product • Take corrective action • Fill up appropriate technical forms, process charts in required format of the company 		Lack of updated knowledge		
Skills Required Technical Skills: <ul style="list-style-type: none"> • Ability to maintain relationship with all the employees • In depth knowledge of the Industry 				

- Knowledge on latest technological trends in the industry
- Knowledge of importance of quality control procedure
- Knowledge of characteristics of the product

Managerial Skills:

- Ability to take important decisions on daily basis Knowledge of the rubber industry
- Ability to manage time
- Capability to manage schedule
- Ability to motivate supervisor ,and other workers

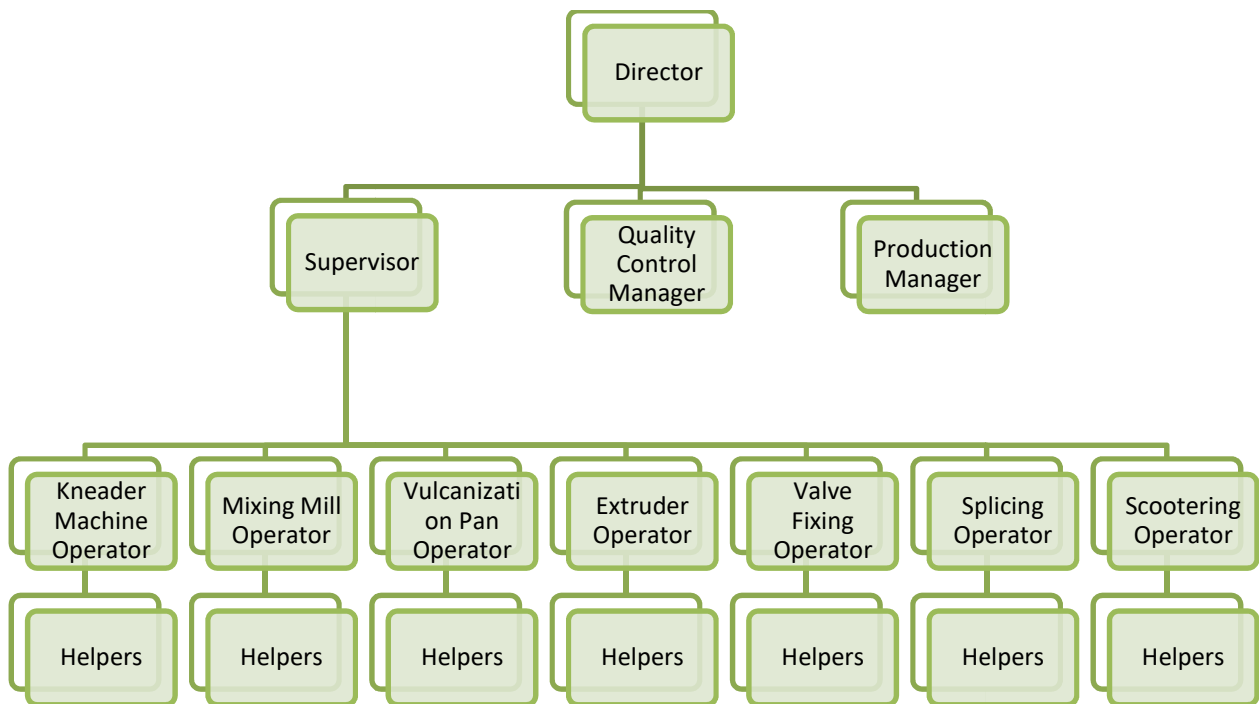
Soft Skills

- Effective communication skill
- Leadership qualities
- Communicate effectively with all parties

Tyre, Tube, Flap and Other Auto Parts

All the respondent firms producing automobile parts mentioned that they skilled manpower required for their manufacturing process is hard to get. The survey findings reveal that there is no single surveyed firm which has tried to contact any training institute for their requirement of supervisor, operators and helpers in the production. The employees for small scale units producing automobile parts are from Delhi as well as outside Delhi. Uttar Pradesh and Bihar are the two states from where majority of hiring takes place for outsiders.

Organization Structure



Process Outline:

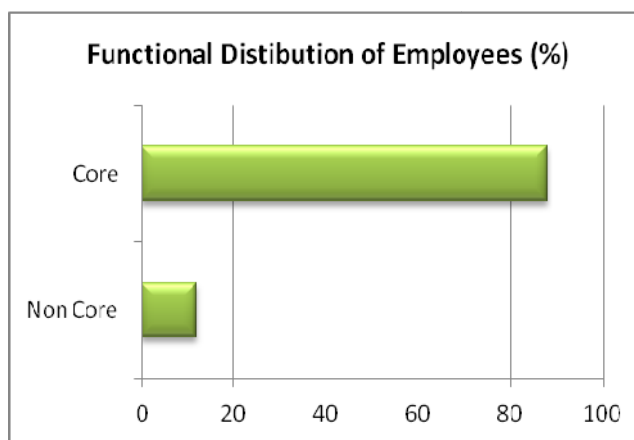
For tube preparation, the mixing takes place as per the required specification and then the sheet is prepared. The raw sheet is then heated. Scooter machine is used to avoid dust etc. Straining of mixing compound takes place. With sulphur straining rubber sheet is heated and again scooting is done. Tube is prepared and green tube is mounted over mandrel with air

pressure. Vulcanize the green tube by steam flow from boiler and cured tube gets ready. Taper cutting machine is used to fix valve. Grinding operation is applied on the tube to smoothen the face of two end of tube. Jointing (splicing) is done with rubber solution, this is called cold jointing. Heat the joint, this is called hot jointing. Product is checked thoroughly and finally packaging is done.

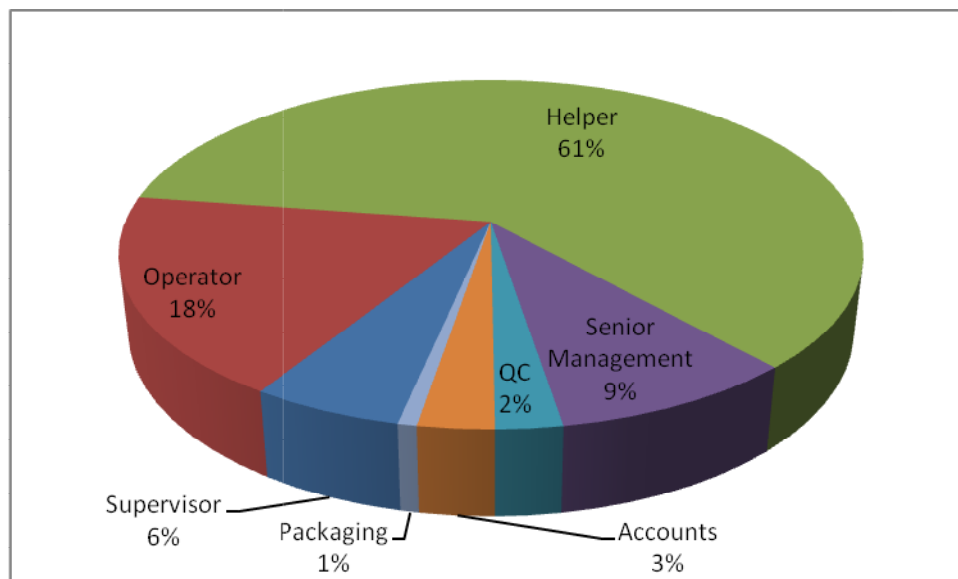
Sample Units	Tiny	Small	Medium	Large	Total
Automobile Parts	-	10	-	-	10

Manpower at a glance

All the employees are recruited on roll in the automobile parts producing firms in the capital city. The major strategy for recruitment is referential hiring and direct interview. Majority of the employees are engaged in the core production activity, only 12 percent of the total employees are taking up the administrative, accounting and managerial tasks. Attrition rate is very low in the surveyed firms producing automobile parts.



Job Role Distribution in Sample Units



The main job requirement is for operator level. In the units covered in the sample, it has been pointed out that the helpers are easily available but skilled manpower is hard to get. Moreover, majority of firms feel that main change in future will come with respect to automation of process and 80 percent of the firms admit that they will require greater number of employees. The main requirement is for skilled operators. Technical skill is the main skill gap raised by majority of the surveyed firms.

Educational Qualifications (% of total employees)

Educational Qualification	Small
Ph.D/Research	-
Engineers	-
Graduate	12
Diploma Engineers	-
ITI/Vocational Education	-
XII/X/School Education	22
Below Xth standard	66
Others (CA, CS, ICWA, MBA etc.)	-

Training

Training department is not in existence for any of the firms surveyed in the automobile products segment. The responding firms highlighted that it is mainly the operators who need to be trained.

Main Roles and Skill Gap

1. Kneader Operator

<u>Kneader Operator</u> <ul style="list-style-type: none"> Operating the Kneader machine to mix the raw materials Mixing the chemicals and natural rubber in proper proportion 	Skill Gap			
	Tiny	Small	Medium	Large
		<ul style="list-style-type: none"> Lack of technical knowledge 		

- Chemicals are mixed in proper proportions as stated by the management
- Keep machine clean and properly maintained
- Guide the helper

- of various chemicals and rubbers
- Lack of knowledge to operate the machine.

Skill Gap Intensity: Medium

Skills Required

Technical Skills:

- Good understanding of the machine at work.
- Knowledge of identifying the chemicals to be added to raw material.
- Putting the chemicals in sequence.
- Basic maintenance of the machine (cleaning after each process)
- Clocking the kneader machine as per the rotation time given by supervisor
- Know the composition and required specification.
- Visual inspection of the compound to understand the condition.
- Avoid contamination of the compound.

Managerial skills:

- Good guiding skills for helpers so that wastage is minimal.
- Attentive towards the work process.
- Ability to take decisions.
- Maintenance skill

Soft Skills:

- Knowledge of metric system like pressure temperature, time, to clock cycle
- Basic reading skills
- Good Communication skill

2. Mixing Mill Operator

<u>Mixing Mill Operator</u> <ul style="list-style-type: none"> Guiding the helpers in unloading the material into the mixing machine. Add additives and chemical in sequence and manner guided by the supervisor. Switch on the machine and the clock the cycle which has been set by the manager/supervisor. Maintain the machine parameters i.e, temperature & pressure Cleaning the mill after each process. Checking the safety while working on the machine. 	Skill Gap			
	Tiny	Small	Medium	Large
		<ul style="list-style-type: none"> No formal training Not efficient in handling the machine operations 		

Skill Gap Intensity: Medium

Skills Required

Technical Skills:

- Operating the machine skillfully and taking due care while working.
- Identify the operation of the machine at hand.
- Know the chemical and additives which need to be added.

Managerial skill:

- Good communication skills for guiding helpers.

Soft Skills:

- Basic metric system to identify the numbers on the screws needed to be tightened.

3. Extruder Operator

<u>Extruder Operator</u> <ul style="list-style-type: none">• Operate the extruder machine skillfully.• Checking that the safety aspects are followed• Maintaining settings of the machine which has been set by the supervisor.• Maintain the machine.• Take care of safety while working on the process as per org. guidelines.(as the temperature is very high)	Skill Gap			
	Tiny	Small	Medium	Large
		<ul style="list-style-type: none">• No formal technical training.• Lack of interest		

Skill Gap Intensity: Medium

Skills Required

Technical Skills:

- Good knowledge of machine and its operation.

Managerial skill:

- Good communication skills for guiding helpers and coordinating with other operators.
- Motivate team members

Soft Skills:

- Good knowledge of metric system (time, temperature, pressure)
- Good reading skills

4. Splicing Operator

<u>Splicing Operator</u> <ul style="list-style-type: none">• Work for jointing the tube(hot joint & cold joint) of cycle and rickshaw• Operating the splicer machine for jointing the tube of automobile• Guide the helper	Skill Gap			
	Tiny	Small	Medium	Large
		<ul style="list-style-type: none">• Lack of formal training		

Skill Gap Intensity: Medium

Skills Required

Technical Skills:

- Good knowledge of machine and its operation.
- Knowledge of hot joint and cold joint in cycle tube case
- Knowledge to operate the splicer machine
- Maintenance skill

Managerial skill:

- Motivate team members Ability to get work done by the helpers
- Ability to take decisions
- Motivate peers and subordinates
- Team spirit

Soft Skills:

- Good knowledge of metric system (time, temperature, pressure)
- Good reading skills
- Interpersonal skills
- Ability to communicate with superior to clear doubts

5. Vulcanization Pan Operator

<u>Vulcanization Pan Operator</u> <ul style="list-style-type: none"> • Curing the tube by putting the mandrel in vulcanization Pan • Curing of green tube have done as per the given specification • Proper cleaning and maintenance and cleaning of vulcanizer • Guide the helper • Properly maintain the machine, and report any issues to the Supervisor/Proprietor • Work for the proper upkeep of the machine 	Skill Gap			
	Tiny	Small	Medium	Large
		<ul style="list-style-type: none"> •No formal technical training •Lack of specialization & experience to perform operation 		
Skills Required Technical Skills: <ul style="list-style-type: none"> • Operating the machine skillfully and taking due care while working. • Proper curing of tubes • Should be able to follow the guidelines • Ability to manage waste Managerial skill: <ul style="list-style-type: none"> • Good communication skills for guiding helpers. • Guide the helpers Soft Skills: <ul style="list-style-type: none"> • Effective communication skill • Quick learner • Basic arithmetic 				

6. Helper (Machine Operations, Finishing, Packaging)

Helper	Skill Gap			
	Tiny	Small	Medium	Large
<ul style="list-style-type: none"> Shift the material from the different process (i.e. kneading to mixing to press to cutting to packing to storing) Clean the shop floor as when guided by the supervisor. Loading and unloading the rubber into the mixing mill Packing the product in respective packing material. Do all work as directed by the supervisor/operator 		<ul style="list-style-type: none"> Lack of technical knowledge No formal training Lack of knowledge w.r.t latest technology 		
<u>Skill Gap Intensity: Medium</u> Skills Required Technical Skills: <ul style="list-style-type: none"> Proper finishing and packaging Do all the work as directed Soft Skills: <ul style="list-style-type: none"> Basic numeric aptitude Good reading skills 				

7. Supervisor

Supervisor	Skill Gap			
	Tiny	Small	Medium	Large
<ul style="list-style-type: none"> Manage the shop floor activities. Responsible for running of unit and production Planning for production 		<ul style="list-style-type: none"> No formal technical 		

<p>schedule</p> <ul style="list-style-type: none"> • Understand the end user requirement and design processes to incorporate the customer needs in the final product. • Get involved in quality control 		<p>training</p> <ul style="list-style-type: none"> • Lack of Knowledge of latest technology used in rubber sector 		
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Intensity of Skill Gap: Medium

Skills Required

Technical Skills:

- Knowledge of the rubber industry
- Knowledge of production process.
- Ability to measure dimensions using industrial measuring instruments.
- Ability to supervise plant operation
- Knowledge of the current trends in rubber technology

Managerial Skills:

- Should be able to supervise the team and guide them so that quality is maintained
- Ability to schedule work and manage time
- Ability to motivate workers.
- Ability to manage manpower on plant level.
- Leadership qualities

Soft Skills

- Effective communication skill

8.Scooter Operator

<u>Scooter Operator</u> <ul style="list-style-type: none">• Proper operation of the scooter machine• Tube form after avoiding the dust as specified by the management• Proper cleaning of dust• Guide the helper• Take care of safety while working on the process as per org. guidelines.	Skill Gap			
	Tiny	Small	Medium	Large
		<ul style="list-style-type: none">• Lack of technical training		

Skill Gap Intensity: Medium

Skills Required

Technical Skills:

- Good knowledge of machine and its operation.
- Maintenance skill

Managerial skill:

- Good communication skills for guiding helpers and coordinating with other operators.
- Motivate team members

Soft Skills:

- Good knowledge of metric system (time, temperature, pressure)
- Interpersonal skills

9. Production Manager

<u>Production Manager</u> <ul style="list-style-type: none">• Responsible for running of unit	Skill Gap			
	Tiny	Small	Medium	Large

and production <ul style="list-style-type: none"> • Planning for production schedule • Understand the end user requirement and design process • Performing the inspection of batches or samples for Quality Check Purpose • To identify defect if present in the product • Take corrective action • Fill up appropriate technical forms, process charts in required format of the company 		Lack of updated knowledge		
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Skills Required

Technical Skills:

- Ability to maintain relationship with all the employees
- In depth knowledge of the Industry
- Knowledge on latest technological trends in the industry
- Knowledge of importance of quality control procedure
- Knowledge of characteristics of the product

Managerial Skills:

- Ability to take important decisions on daily basis Knowledge of the rubber industry
- Ability to manage time
- Capability to manage schedule
- Ability to motivate supervisor ,and other workers

Soft Skills

- Effective communication skill
- Leadership qualities
- Communicate effectively with all parties

10. Valve Fixing Operator

<u>Valve Fixing Operator</u> <ul style="list-style-type: none">• Operating the valve jamming machine• Valve is fixed as stated by the management• Cleaning of valve jamming machine• Take care of safety while working on the process as per org. guidelines.	Skill Gap			
	Tiny	Small	Medium	Large
		<ul style="list-style-type: none">• Lack of technical training		

Skill Gap Intensity: Medium

Skills Required

Technical Skills:

- Knowledge of operating the valve jamming machine
- Maintenance skill
- Knowledge to fix the valve in the tube

Managerial skill:

- Ability to take decision
- Proper communication with the seniors to find out if any problem exist in the machine

Soft Skills:

- Basic knowledge of metric system
- Interpersonal skills

SKILL GAP AND HUMAN RESOURCE REQUIREMENT

Firms responding to the query related to the skills that the industry find missing in their employees believed that the workers need to have technical knowledge. All these firms are operating at small scale which has shown their concern regarding the technical education. An important area of concern emerges on the part of discipline which is an important behavioural trait. As the employees mainly gain knowledge on the job which has been highlighted throughout in the survey responses, the availability of skilled manpower for various job roles seems to be an important area of concern.

Table 4.1: Technical Skill Gap: Product Category Wise

Category	Firm's response (%)
Tyres and Tubes	5
Camel back	5
Footwear	10
Belts and hoses	5
Latex foam	5
Dipped goods	10
Others	60

Skill Gap Intensity

The intensity of skill gap is listed in four categories by the firms covered in the sample of the study i.e. Low, Medium, High and No skill Gap manifested. However, the analysis of the responses is listed under following categories based on the given criteria:

Category	Criteria (Response of firms)
Low	Low: 80 percent or more
Low to Medium	Low: 60 to 80% and Medium:20-40 %
Medium	Medium: 80 percent or more
Medium to High	Medium: 60 to 80% and High:20-40 %

High

High: 80 percent or more

No skill gap manifested

80 percent or more

The skill gap intensity for operator's role for various activities has been rated medium by a large number of firms. However, there is only one supervisory role mentioned by the organization at the senior level but not specific to different job roles.

SKILL GAP INTENSITY

Job Role	Low	Low to Medium	Medium	Medium to High	High	No skill gap manifested
Production Supervisor						
Mixing Operator						
Kneader Operator						
Curing Operator						
Calendering Operator						
Boiler Operator						
Moulding Operator						
Extruder Operator						
Latex Compounder						
Hydraulic Press Operator						
Dipping Operator						
Ball Mill Operator						
Grinding Operator						
Winding Operator						
Mandrelling Operator						
Trimming/Cutting						
Finishing operator						
Helper						
Quality Control						
Accountant						

An analysis of skill gap intensity indicates that the firms have not rated high skill gap intensity for any role. Most of the operators are facing medium level of skill gap which can be corrected by technical training. Interestingly, firms reported that helpers which form an important part of the industry mainly lack skills on technical and training aspect, not on their routine jobs of housekeeping, loading/unloading, movement of material etc.

The industry feedback on expected profile of major human resource for major job roles and analysis of their availability is presented below:

Employee profile	Industry feedback on expected qualification and profile	Analysis
Helper	Needs to know the basic operation of machines in use and trained on behavioral and disciplinary skills.	There is adequate availability of helpers in all the select states however they need to complete at least basis education to develop skills to move on career path.
Operator	Needs to know the semi automatic /automatic machine operation and maintenance. Training on machine exposure for about 6-12 months will be ideal.	There is a shortfall of skilled operators across all segments in rubber industry reported by the firms in all select states. supervisors and operators. Though the point could be the helpers can move to the operator role, sufficient re-skilling and upskilling needs to be done to improve the performance quality.
Supervisor	Needs to hold technical certification and remain updated about latest	The requirement for supervisory role has not been reported by the firms

	technology. Able to manage the shop floor	implying that director himself performs this role or the operators are trained to perform supervisory role.
QC	Needs to have chemistry/rubber technology/polymer technology background	The requirement for QC personnel has been reported mainly by medium and large scale firms.

Human Resource Requirement in Rubber Industry

An estimation based on the sample survey has been attempted to highlight the human resource requirement in the rubber industry in the capital city in the current scenario. Moreover, a five year forecast for the human resource requirement in next five years is also presented below to indicate the future trend in the rubber industry in Delhi.

Table 4.2: Current Status and Projections

Product Category	2013-14	2018-19	Change	Change%
Tyres and tubes	978	1271	293	29.9
Camel back	204	244	40	19.6
Footwear	2910	2920	10	0.3
Belts and hoses	30	32	2	6.7
Latex foam	318	322	4	1.3
Dipped goods	192	195	3	1.6
Others	2292	3142	850	37.1
Total	6924	8126	1202	17.4

It is estimated that in the coming five years, we may witness an overall 17 percent increase in the employment in the rubber industry in the capital city. At the operator level, the highest demand would be emerging for mixing operators. Skilled operators would find greater opportunities knocking at their door in the manufacturing segment. The next level for which the organizations would look for the employees is for helpers. The requirement for supervisor is not seen as significant as other roles in production activity for the industry as a whole across the different segments.

Table 4.3: Requirement for Key Job Roles

Job Role	% of Human Resource Requirement	Human Resource Requirement (No.)
Supervisor	5	60
Operator	48	577
• <i>Mixing/Kneader</i>	19	228
• <i>Curing</i>	11	132
• <i>Calendaring</i>	6	72
• <i>Cutting</i>	5	60
• <i>Extruder</i>	7	84
Helper	24	288
Packaging/Dispatch	6	72
QC	6	72
Office/Marketing	8	96
Technologist	3	36

The projections are based on the trends witnessed in the past, the current industry scenario and survey responses received from the respondent firms. The estimations provide a direction of change, however, in an ever changing environment in which the production takes place the exact requirement may vary as the time unfolds.

