Chapter Seven

Employment Relations and Competitiveness

In chapter four global competitiveness index was presented which assessed the different economies of the world in terms of their different stages of development. A broad segregation of the indexes was made with respect to factor driven, efficiency driven and innovation driven economies. In this chapter an attempt is made to utilise the same framework to analyse employment relations in these firms. Employment relations along with technology in firms are treated as variables that change in relation to the state policies, time and governance structures employed in firms.

7.1 ‘Firm’ competitiveness index

In line with the global competitiveness index, a firm competitiveness index is designed. It presumes the three basic indexation categories, in particular – factor driven, efficiency driven and innovation driven. These three divisions are segregated in terms of their GDP per capita thresholds. For the purpose of setting a similar variable for a firm, the variable of gross sales is selected for our analysis.

**Table 21: Gross Sales of the firms**

<table>
<thead>
<tr>
<th>Year</th>
<th>Firm A (₹ in crore)</th>
<th>Firm B (₹ in crore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>42,686.3</td>
<td>3,830.48</td>
</tr>
<tr>
<td>2015</td>
<td>46,577.3</td>
<td>4,113.59</td>
</tr>
<tr>
<td>2014</td>
<td>46,309.3</td>
<td>3,584.93</td>
</tr>
<tr>
<td>2013</td>
<td>42,317.2</td>
<td>3,346.98</td>
</tr>
<tr>
<td>2012</td>
<td>37,005.7</td>
<td>3,080.76</td>
</tr>
</tbody>
</table>

Source: Generated by the Author using Capitaline corporate databases, Capital Market Publishers India Pvt. Ltd. (http: www.capitaline.com)

Firm A is a large firm with around ₹40,000 crore gross sales figures while firm B is a relatively smaller firm having gross sales of the order of ₹3,000 crore. The difference is also visible in terms of the employee size of the two firms. Clearly the two firms are placed quite differently thereby clubbing them together on a similar footing would be
inappropriate. However, liberalisation has had a *normalising* effect on these firms and the extent of the availability of technology and work force has been more or less consistent for both the firms. This is relevant because unlike global competitiveness measures for economies, no specific sub-index weights can be attached with the different stages of firm development. The only differentiation that might exist between firms belonging to the same industry would be on the basis of their finished products.

Further, taking cues from the GCI, the three divisions of economies namely, factor-driven, efficiency driven and innovation driven is replicated for firms as well. As firms move from a lower stage to a higher stage, there is an increase in the competitiveness of the firm. Also the growing realisation of firms having to compete in a globalised environment makes firms push towards achieving higher stages of this development. Figure 30 below presents the firm competitiveness index along with the variables associated with each stage.

Source: Generated by the author.

**Figure 30: Firm Competitiveness Index**

All the variables above are related to the characteristics of the firm. It can be showcased below briefly,

- **Infrastructure**: This refers to the firm specific infrastructure which keeps the firm going. This refers to fixed assets, capital equipments etc.
• Institution: This refers to the overall institutional environment of the firm which has its roots in the history of the firm. The governance structures cemented through this process also finds place here.

• Health and education: Good health and basic education of the employees are crucial for an efficient running of the firm.

• Government policies: Progressive government policies act as enablers in realising the firm’s goals.

• Training: It refers to both basic as well as advanced training for the employees. These training can be technical or for soft skill enhancement.

• Labour productivity: An increase in the labour productivity would make the firm more efficient.

• Growth: Growth of the company in terms of expansion and modernisation of the firm is captured in this variable.

• Market share: An increased market share also posits a higher growth and an increased competitiveness.

• Expenditure on R&D: Investments in R&D form an important segment in increasing a firm’s competitiveness.

• Patents filed: An increase in the number of patents filed showcases the innovative capacities of the firm.

• International collaborations: International collaborations bring together with it the chance of learning and forming a competitive firm in the global market.

Most of the variables bear significance for the human aspects of the firm- basic health and education would lead to a better trained workforce which would enhance productivity and given sufficient time period it would eventually translate into innovative capacities. All these variables are to some extent related to the human resources in the firm. Proper training and management of these resources leads to a more developed employment relations and increased competitiveness.
7.2 Assessment of firms

The two firms A and B are now assessed based on the parameters specified in the firm competitiveness index. The production process for making steel products is an elaborate process that starts from purchasing raw materials in the form of iron ore and coal which is then passed through complex metallurgical processes to roll out the alloy. The entire process is one which requires a high degree of technological expertise. The pace of development of new technology is also high which makes older technology redundant. Over the years, steel making has shifted from open hearth process to LD process to using electric arc furnaces (EAFs)/induction processes.

The Global competitiveness report (2014-15) points out that in India there is a need for upgrading infrastructure related to electricity and transport. In this manner it would be able to address most of the concerns associated with high transaction costs. With regard to firm competitiveness, infrastructure pertains to the optimum maneuvering of resources for production processes. Further, it also relates to transactions that cater to market accessibility for its finished products. Therefore, it covers both B2B and B2C transactions.

In view of assessing firm infrastructure, steel making process can be grouped into three sections—raw material availability, iron and steel making process and market availability for finished products.

Both the firms A and B have captive iron ore and coal mines which guarantee a steady supply of raw materials. For firm A, coal is also supplied from parts as far as Australia. Firm A has also made huge strides in upgrading iron and steel making process, importing latest technology from over the world. Owing to its long period of existence, firm A has a mix of both old and new processes of steel making. Towards the end of the production process, the products are tested and certified based on the BIS (Bureau of Indian Standards) norms. The finished products of firm A also varies from steel slabs, hot rolled coils, cold rolled coils, wire rods etc. These products are then bundled, packaged and sent through rail and road networks across India. Recently, the firm is also deliberating for a new coastal route that would help save on the transportation costs.
As mentioned earlier, Firm B also has a captive iron ore mine that fulfills the requirement of the firm. These mines are located in the same state as the firm. The ores collected hence undergo the process of converting it into various steel products. Although the firm is relatively smaller in size as compared to firm A, all these facilities are located within the firm. The finished products hence are inputs for a variety of industries like automotive, tractors, aluminum, heavy earth moving equipments etc. The firm forms part of a range of intermediary products for various industries. Due to its operations in international locations, the firm also exports a large part of its finished products as per the requirement. Locational advantages in terms of proximity to captive mines and good rail and road connectivity add to the advantage for both these firms.

Institution with respect to firms relate to the institutions prevalent inside the firm. Institutions are basically seen as instruments installed to maintain order for the efficient functioning of any economy. Extrapolated for the case of the firm, it would relate to instruments for the control of the human resources of the firm. In this respect, collective bargaining as an institution is of paramount importance. The mechanisms in place for conducive union-management interactions measure up for the institutional success.

Firm A has a union and a well established system of collective bargaining. Earlier collective bargaining was based at two levels– one at the national level where issues related to wages of the workers were fixed, the other at the level of the firm where issues related to incentives and other day to day related tasks were discussed. Post the year 2003, firm A has expressed its desire to come out of the national level wage agreements and instead bargain at the level of the firm. This decision necessitated wages being deliberated at the level of the firm. The factor of the firm’s capacity to pay ruled over most of the decisions and which also led to changing of the traditionally held grade structures for the workers. This has led to a lot of discontentment from the side of the workers who have expressed the dilution of their voices in the affairs of managing the firm. It is particularly important in the case of firm A which has for the large part of its existence advocated for a benevolent approach for its workers. Also relevant to this issue is that there has been no major conflicts that has taken place since the last few decades.
Firm B also has one union, however systems of bargaining has more or less been consistent in the firm. Affiliations of the recognised union shift with changes in the political arena of the state. The management has benefitted largely out of such an arrangement where the workers have been sidelined for most decision-making processes. Further, one major difference between firm A and B has been the management where pertaining to a large size firm A has a manager in each department, while firm B has a few managers that are running the business. Again in this case there has been no conflicts that have taken place in the firm.

The aspect of health and education is also of prime importance and one that forms part of the basic requirements in box 1 of figure. As mentioned in the previous chapter that firm A has maintained an entire city along its circumference. It also houses a hospital that takes care of the residents. Since the two firms are located in close proximity, they share the hospital facility. However, safety is an issue with firm B when repeated accidents have been common in the shop floor. Assistance in educational provision is taken care by the CSR (Corporate social responsibility) facility of firm A by providing scholarships for education, especially focusing on the rural regions and the SC/ST communities. It also helps in funding infrastructure for building schools. Since a large part of the workforce is migrant workers, the firm does not feel the need for catering to education of them and their children. Workers who work in the lower rung of the firm are given basic training, but cases were also found where workers in the blast furnace A-F blast furnace were illiterate. Firm B, on the other hand does not provide any such basic education facility for its employees.

Government policies play a crucial role in the maintenance of a favourable environment for the growth of any industry. The steel industry has been the one of the first beneficiaries of the liberalised environment where deregulation of pricing and distribution had been initiated. Free exports and imports of iron and steel are allowed with occasional protection of local industry by imposing anti-dumping duties on various steel products. However, there is currently no export duty that is levied from firms

\[\text{Blast furnaces A-F were the ones that employ erstwhile technology of open hearth furnace. Although these blast furnaces are still active, the firm is slowly phasing them out.}\]
located in India. Recently in the year 2015, the steel ministry has mandated for a BIS certification of all steel products which would ensure quality of the products manufactured. The ministry is also focusing on pushing for a greater focus on R&D. A National Steel policy was rolled out in 2005 which encouraged growth of the steel industry of the country by aiming to reduce the procedural bottlenecks required for input of raw materials, increase investments in infrastructure in terms of ease of connectivity, facilitating an increase in capacity, stimulate demand for steel products etc. The ministry is targeting to reach a capacity of 300 MTPA by the year 2025 (Ministry of Steel, 2015-16).

Training has received a lot of attention in today’s knowledge economy. Workers are no longer passive agents in the firm but are increasingly becoming aware of the importance of training for future development. Firms have also responded in this direction. Both the firms A and B have shown a strong commitment towards increasing the technological knowhow of their employees. They both have a training institute established that takes care of the sharpening the skill sets of the employees. Sometimes, firm A also sends its workers to foreign locations to learn about new technology. Overall, this has a positive impact on both the workers and the firm.

Assessments on the technological aspects relate to the factors in box 3 of figure. In the table 22 below, firm A has a relatively larger investment done in R&D as compared to firm B.

**Table 22: Total expenditure on R&D as percentage of net turnover (%)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Firm A (₹ in crores)</th>
<th>Firm B (₹ in crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-16</td>
<td>0.34</td>
<td>0.0</td>
</tr>
<tr>
<td>2014-15</td>
<td>0.32</td>
<td>0.0</td>
</tr>
<tr>
<td>2013-14</td>
<td>0.19</td>
<td>0.08</td>
</tr>
<tr>
<td>2012-13</td>
<td>0.15</td>
<td>0.24</td>
</tr>
<tr>
<td>2011-12</td>
<td>0.16</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Source: Generated by the Author using Capitaline corporate databases, Capital Market Publishers India Pvt. Ltd. (http: www.capitaline.com)
The investment is further translated into number of patents filed for the firm. Firm B does not provide any data on the number of patents filed while firm A has taken huge strides in filing for patents over the years which has reflected its technological differentiation. The data for firm A has been shown in figure 31.

![Figure 31: Overview of patents records for firm A (2012-15)](image)

In terms of the number of international collaborations, firm B has technical collaborators primarily located in Germany, UK and Austria. Firm A presents a much more diverse picture from collaborations with Germany, Korea, Japan and the United States. It is to be noted that both these firms have benefitted from international collaborations. Over the years this has resulted in both the firms going for modernisation and expansion programmes in order to increase the market share of their products. Although these firms belong to the same industry, their products are different and they are more or less the leaders in their respective fields.

A summary of the above mentioned points can be shown in table 23.
Table 23: Summary of the competitiveness variables for both firms

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Variables</th>
<th>Firm A</th>
<th>Firm B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Infrastructure</td>
<td>Captive mines available and good rail and road connectivity</td>
<td>Captive mines available and good rail and road connectivity</td>
</tr>
<tr>
<td>2.</td>
<td>Institution</td>
<td>Developed</td>
<td>Fluid</td>
</tr>
<tr>
<td>3.</td>
<td>Health and education</td>
<td>Hospital available</td>
<td>Hospital available</td>
</tr>
<tr>
<td>4.</td>
<td>Government policies</td>
<td>Conducive</td>
<td>Conducive</td>
</tr>
<tr>
<td>5.</td>
<td>Training</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>6.</td>
<td>Growth over the years</td>
<td>On the rise</td>
<td>On the rise</td>
</tr>
<tr>
<td>7.</td>
<td>Market share</td>
<td>Dominant player in the industry</td>
<td>Dominant player in its segment</td>
</tr>
<tr>
<td>8.</td>
<td>Expenditure on R&amp;D</td>
<td>$0.34 crore (% of net turnover, 2015-16)</td>
<td>$0.08 (% of net turnover, 2013-14)</td>
</tr>
<tr>
<td>10.</td>
<td>International collaborations</td>
<td>Germany, Korea, Japan and the United States</td>
<td>Germany, UK and Austria</td>
</tr>
</tbody>
</table>

It is seen that the two firms A and B lie at different levels. Firm B which prospers in having resources available as its input along with good infrastructure facilities to ship the goods, it lags on most parameters. Although there is a focus on training for the workers, health and safety is a concern with the firm. Further, when there is a push towards modernisation and expansion plans, it mostly relies on easy raw material availability, surplus labour supply, managed union activities with little or no impetus towards innovation building capacity and R&D. It seeks to take leverage on the existing resources with easy man power availability and resources as its greatest assets.

Firm A, on the other hand presents a case of a superior scenario wherein there is a focus on R&D and international collaborations. However, in order to qualify as an innovation driven firm it needs to cover a lot of ground. Basic facilities of safety and health are taken care of and given the illustrious history of the firm it is comfortably placed. The concern for firm A would be the degenerating relational aspects of worker contracts which has implications for the human asset specificity of the firm. The institutional environment which has maintained and thrived within and outside the firm is lying to be altered.
In a nutshell, firm A belongs to the category of efficiency driven firm while firm A is more attuned to being a factor driven firm. Both these firms need to manage their resources more efficiently and also expand their limits. In an enabling exterior environment, firm governance structures are most crucial.

### 7.3 Competitiveness and Employment Relations of firms

The above analysis reveals that competitiveness and employment relations are intertwined with each other. While when competitiveness is addressed through a range of different *enablers* both external and internal to the firm like, decent infrastructure, health and education, favourable government policies, growth over the years, innovative capacities of the firm etc. employment relations in part is addressed through capitalising on these existing enablers. The governance structures and philosophy of the firm also dictates much of the trajectory of the firm over a period of time.

The two firms taken up for analysis present as belonging to different levels of competitive structure, while firm A is an efficiency driven firm, firm B has a factor driven thrust. It would be essential for these firms to plug in the gaps in order to jump to a higher level in the index.

Firm B presents a static case of having stable employment relations and low technological focus. If it were to survive and exceed in the market, it would need a lot of time to reach the innovation stage of firms. Few categories in the efficiency driven stage, as relative to firm A needs to be focused. In terms of employment relations, the firm would need to go beyond merely legal compliance requirements and provide decent working conditions for its workers. Attempting to reap benefits of advancing modernisation and expansion plans along with stagnant employment relations would tend to hamper the firm.

Firm A presents a relatively dynamic technological development potential but since liberalisation the robust employment relations practices have been waning. The erstwhile

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114 “Decent Work” is a concept spearheaded by the International Labor Organization (ILO) which summarises notions of employment, workers’ rights, social dialogue and social protection (Ghai, 2003).
benevolent governance structures of firm A is going to change which would have implications for the firm in the long run.

While firm A, for much of its history has been able to capitalise on the competitive position that the industry provides, it is on a different course now after the liberalisation period. Firm B on the other hand has been located favourably in its segment along with the competitive enablers of the industry, it has not been able to convert that into capitalising on the employment relations. Positing a dynamic link between competitiveness and employment relations, below figures illustrates a theoretical standpoint. Figure 32 below illustrates the situation of firm A where competitiveness and employment relations are seen as having intersection and in terms of being complementary to each other. On the other hand, figure 33 depicts the case of firm B where the two factors have no relation to each other. In due course of time, since firm A has decided to amend its employment relations it would fall in the line of firm B.

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**Figure 32: Competitiveness-employment relations link for firm A**

**Figure 33: Competitiveness-employment relations link for firm B**
7.4 Duality of firm competitiveness and the centrality of the human

Here, firm competitiveness is viewed from a dual perspective. The variables related to box 1 of figure give a greater weightage to the basic factors of production, the one which relates to the factors of production function namely labour, capital and also raw materials. On the other end of the spectrum, i.e. box 3, these traditional factors of production gets indistinct and is assimilated into capital. The logic of such development presupposes that to reach such a stage, the other factors of production namely, labour and raw materials become nonessential. It follows the paradigm of the economics of ideas which relies on knowledge and capacity building through replication and reuse\textsuperscript{115}.

Knowledge as, Nonaka (1991) conceives is of two types- tacit and explicit. While tacit knowledge refers to inherent mental models and capabilities of individuals that is difficult to be codified, explicit knowledge refers to the knowledge that can be codified neatly into algorithms. The underlying unit in all these arrangements is, however, the individual\textsuperscript{116}. In a more technologically sophisticated firm, synonymous with higher level of competitiveness, individual or human is replaced with human capital. The focus in the higher end innovation-driven firm is not so much on the human aspects but on the human capital aspects of the individual.

However, invariably the intrinsic link between human aspect and innovative/technological capabilities is ignored\textsuperscript{117}. They are seen to be on the two ends of the growth spectrum. Aspects related to human capital and innovation are looked as independent of each other where innovation is mostly seen in terms of establishing appropriate networks for economic growth. Two different definitions of innovation can be gathered from Schumpeter (1934, 1942), where one relates to the destabilising effects of newly established firms that continuously challenge the existing firms thereby imposing a kind of ‘market discipline’ of continuous change, the other relates to the resources that the established firms devotes in order to improvise on the R&D facilities of

\textsuperscript{115} See Wiig (1997).
\textsuperscript{116} Focus on the individual also characterises discussions around firm competitive advantage, organisational learning, continuous innovation etc. (Meso & Smith, 2000).
\textsuperscript{117} This is true for services sector also where an increase in the technological capabilities of the firm directly depends on the human skills and capabilities within the firm.
the firm. Both these factors boil down to the human capabilities existing and honed within the firms. In another instance, linking innovation systems to the human resources aspects of a firm have not garnered much attention (Michie & Sheehan 2003).

7.5 Summary

In this chapter, employment relations and competitiveness have been taken together to provide a composite account of a firm competitiveness index. This index has taken cues from the Global competitiveness index of WEF. The firm competitiveness index hence created is divided into three brackets of factor-driven, efficiency-driven and innovation-driven firms. The variables associated with each of these brackets have been enumerated. Further, this chapter also assesses the firms selected for the study into these brackets. It is found that both these firms lie at different brackets of the index. Finally, employment relations and competitiveness has been juxtaposed together for both the firms in order to see intersections between the two. Both the firms again provide a different picture of the situation which carry implications for their existence and growth.