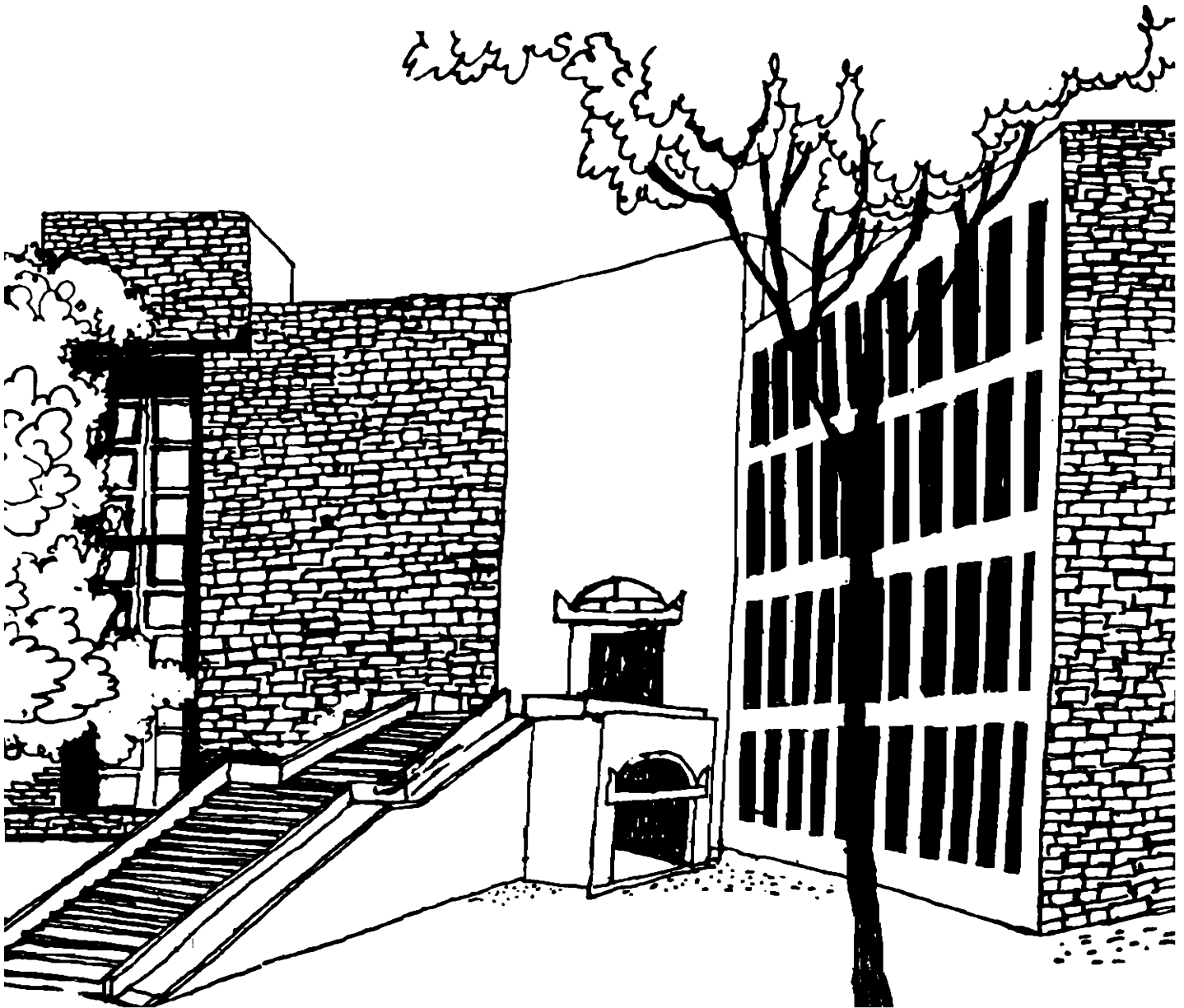




# Working Paper



BUILDING ON CORE COMPETENCE IN A REGULATED  
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## **BUILDING ON CORE COMPETENCES IN A REGULATED ECONOMY ?**

**Shekhar Chaudhuri**

### **ABSTRACT**

The significance of core competencies is now well recognized. Its role in enabling firms to respond to customers' rapidly changing needs and combat competition is well documented. However, the applicability of this concept in regulated and protected economies is an area that needs the attention of management scholars. In this paper we briefly review the concept of core competence and examine the manner in which several firms in India built their strategies around some identified core competencies and also how these in turn enabled the firms to achieve superior performance. The paper also discusses in detail the capability development process in Telco, the leader in the Indian commercial vehicle industry.

## 1. INTRODUCTION

Many developing countries like India have attempted to build their industrial bases by pursuing economic philosophies geared towards protecting domestic firms from the onslaught of foreign competition. As our experience in India shows many firms performed extremely well under these protective conditions. For example, the large family managed conglomerates of the Birlas, Thapars, Modis, Tatas, etc. flourished under these conditions. They pursued growth strategies through diversification into a variety of unrelated businesses. Protected through a plethora of governmental rules and regulations, licensing requirements, import restrictions and high tariffs these firms performed admirably. This continued till the middle of 1991 when the New Economic Policy was enunciated by the government. Since then, however, there has been a dramatic change in the Indian business environment and the words "core competencies" have become part of the lexicon of corporate managers.

In an opinion poll of 148 CEOs, directors, and vice-presidents of large, medium and small firms across the country conducted by the Marketing and Research Group (MARG) in December 1993 (Business Today, January 1994) on corporate attitudes towards restructuring, reasons for restructuring and the manner in which they were going about restructuring, it was found that companies considered identifying and consolidating core competencies as the most important approach to restructuring their activities in the emerging environment. If we trace the evolution of the doctrine of core competencies

internationally we find that with the intensification of global competition during the 1980s mergers and acquisitions, which had proliferated as a strategic route to growth during the 70s were given the go-by and firms adopted the approach of “stick to the knitting”. During the 90s corporates began to look for growth again and the concept of core competencies was developed to help them diversify in a synergistic manner. Therefore, going by international trends it is not surprising that many firms which had earlier diversified into unrelated businesses in India are now in the process of consolidating their activities around a few core competencies and building their future around them. However, several firms went against the stream during the licence raj years. A few examples of firms which were unconventional in their strategic thinking are Tata Engineering and Locomotive Company (TELCO), Punjab Tractors, Gujarat Narmada Valley Fertilizers Company and Arvind Mills. These firms pursued strategies that facilitated the development of some core competencies which in turn enabled the them to acquire strong competitive positions in their industries.

In this paper we shall describe the core competence development process in TELCO and the corporate development process of a few firms that have achieved overall success by nurturing some core competencies and examine in what manner the strategies paid off and also the lessons that managers of developing country firms may draw from these experiences. Before we discuss the cases of a few organizations, let us briefly review the concept of core competence.

## **2. WHY AND WHAT OF CORE COMPETENCIES?**

According to Prahalad and Hamel (1990), in the long run, competitiveness derives from an ability to build, at lower cost and more speedily than competitors, the core competencies that spawn unanticipated products. The real sources of advantage are to be found in management's ability to consolidate corporate-wide technologies and production skills into competencies that enable individual businesses to exploit quickly changing opportunities. To be globally competitive, the critical task for management is to create an organization that is capable of infusing products with irresistible functionality, products that customers need, but have not yet imagined. This can come about if the firm possesses a few core competencies. The authors suggest that the companies to emulate in today's environment are the ones that have proved adept at inventing new markets, quickly entering emerging markets and dramatically shifting patterns of customer choice in established markets. Today all companies that compete globally or have a global presence are converging on similar and formidable standards of product cost and quality; and therefore, these cease to be sources of differential advantage.

As the authors see it, the diversified corporation is a large tree. The trunk and major limbs are the core products, the smaller branches are business units, the leaves, flower and fruit are the end products. The root system that provides nourishment, sustenance and stability is the core competence. Core competencies result from collective learning in the

organization, especially coordination of diverse production skills and integration of multiple streams of technologies.

Just as core competence is about harmonising streams of technologies, it is also about the organization of work and the delivery of value. Core competence is communication, involvement and a deep commitment to working across organizational boundaries. It definitely does not diminish with use. Another interesting thing is that in the core competencies underlying them, disparate businesses become coherent.

While Prahalad and Hamel's article catapulted the concept of core competence to the forefront of management literature there are several related articles by other authors that are worth keeping in mind.

Dierickx and Cool (1989) conceive strategy formulation as the task of making appropriate choices about strategic expenditures (advertising, R&D, etc.) with a view to accumulating required resources (brand loyalty, technological expertise, etc.). They define critical or strategic assets as those that are nontradeable as well as nonimitable and nonsubstitutable. These assets are accumulated over time.

Amit and Schoemaker (1993) define a firm's resources as stocks of available factors that are owned or controlled by the firm. These resources are converted into final products or services by using a wide range of other assets and bonding mechanisms such as



technology, management information systems, incentive systems, etc. Capabilities in contrast refer to a firm's capacity to deploy resources using organisational processes to effect a desired end. These capabilities are information based, tangible or intangible processes that are firm specific and are developed over time through complex interactions among the firm's resources. According to them the more firm-specific, durable and scarce strategic assets are, the more valuable to the firm can be their deployment.

Robert Grant (1991) suggests that capabilities are what a firm can do as a result of teams of resources working together. The author feels that the definition of a business in terms of what it is capable of doing may offer a more durable basis for a strategy than a definition based upon the needs of customers as the latter are volatile.

According to Collis (1991) distinctive competence represents the set of resources, which are competitively superior and which can therefore be a source of corporate advantage. Resources, to be part of a corporation's distinctive competence, must be: competitively superior and valuable in a product market, inimitable, nontradeable and nonsubstitutable.

Irvin and Michaels (1989) maintain that to outmanage competition it is not enough for firms to formulate brilliant strategies; they also need to execute them brilliantly. They believe core skills are the links between strategy and its execution. They are the critical capabilities that an organisation as a whole distinct from the capabilities of individuals in the organisation. One of the examples cited by the authors is that of Wal-Mart, whose

core skills are in purchasing, logistics and customer service which are far superior to those of the competition.

What do we learn from the above discussion? Core competences, core skills and capabilities are used interchangeably by some writers, but they all consider them to be significant in terms of their potential for influencing corporate performance. They are different from resources. In fact a variety of resources through interaction between them through human interface, information exchange and organisational linkages give rise to core competencies. Core competencies get developed over time through sustained nurturance by top management attention. Core competencies need not be limited to manufacturing related ones as seems to be brought out in Prahalad and Hamel's article. Core competencies can be present in any functional area that has the potential to add value to customers. In fact the more the number of functions a core competence cuts across the more its potential to provide a cutting edge to the firm.

Let us now consider a few examples of Indian firms which have been pursuing strategies based on a few core competencies: (a) Tata Engineering and Locomotive Company; (b) Punjab Tractors; (c) Gujarat Narmada Valley Fertiliser Company; and (d) Arvind Mills.

#### **A. Tata Engineering and Locomotive Company**

Tata Engineering and Locomotive Company (TELCO) is the leader in the Indian commercial vehicle industry. Under the leadership of Mr. Mulgaonkar it developed its

technological expertise in acquiring and assimilating foreign technology in the field of commercial vehicles, excavators and machine tools. Over time the companies developed strong skills in adapting foreign technology (both product and process) to Indian conditions. Their skills are both product design and manufacturing related. The wide ranging skills in the engineering industry enabled the company to add new products to its portfolio much faster than its competitors and at a lower cost. It is worth noting that the foundation for the development of these skills were laid during the protectionist regime of the 60s, 70s and 80s (Chaudhuri, 1998).

#### **B. Punjab Tractors Limited**

Punjab Tractors Limited (PTL) had its genesis around 1965 in the desire of the Indian government to be self reliant in the field of agriculture. The Central Mechanical Engineering Research Institute (CMERI), one of the laboratories under the government's Council of Scientific and Industrial Research (CSIR) developed an indigenously designed 20 HP tractor in the late 60s. The design of the hydraulic system for implement control was awarded worldwide patents and the technology was transferred to PTL for commercialisation. The whole design team was transferred from CMERI to PTL to ensure proper transfer of the technology. PTL's success in the market place can be gauged by the fact that it has a market share around 13 per cent placing it in the third/fourth place in a highly competitive market place proliferating with several foreign models. A significant core competence of the company is its ability to come up with and introduce new tractor

models rapidly in the market. Here too these skills were honed during the 70s and 80s before the beginning of radical economic reforms (Chaudhuri, 1997).

### **C. Gujarat Narmada Valley Fertiliser Company**

Gujarat Narmada Valley Fertiliser Company (GNFC) is one of the many fertiliser firms in the country. However, it is one of the few which have achieved enviable performance. GNFC was promoted by the state government of Gujarat and Gujarat State Fertiliser Company (GSFC). Commercial production started on 1st of July 1982. The plant is reported to be the largest single stream ammonia and urea plant in the world using fuel oil as feed stock. It entered into collaboration agreements with Linde of West Germany and Snam Progetti of Italy. During the first few years the company faced tremendous odds in overcoming technical problems due to defects in the plant and equipments as well as intermittent power failures. However, with constant effort the engineers of GNFC were able to improve production performance and profitability. The company was able to achieve considerable reduction in consumption of raw materials, power and fuel, and stores and spares. Increased efficiency through a variety of activities carried out by the R&D, mechanical maintenance, inspection departments, performance monitoring group, design and construction and pollution control departments helped improve the company's financial performance. The company entered into several collaboration agreements for new chemical products and over a period of time has developed a strong capability in low cost manufacture of chemical products, understanding of chemical technologies and problem solving, skill in purchasing technology and absorbing the same, an ability to work

effectively with several collaborators and in making continuous improvements in productivity, quality and plant reliability. These competencies have enabled the company to carve out a niche for itself in the fertiliser and pesticides industry in the country (Chaudhuri, 1991).

#### **D. Arvind Mills Limited**

The Arvind Mills Limited (AML), a member of the Lalbhai Group, is one of the most reputed companies in the Indian textile industry. AML was established in 1931 in the midst of the country's independence struggle. From its very inception, AML demonstrated a keen understanding of consumer preferences by recognizing the shift from coarse fabrics to fine and superfine fabrics. The same foresight helped the company out of a gloomy business environment when in 1986 it launched itself on a new strategy.

Amongst the many product - market segments that exist in the textiles business, AML has decided to have a significant presence in a few chosen ones. These segments were chosen on the basis of global demand for the products, low fashion content and high entry barriers. The products and markets selected by AML were; standard indigo dyed blue denim manufactured for producers of jeans around the world targeted at the lower and middle segment of the market; high quality cotton shirtings produced for manufacturers of dress shirts around the globe targeted at the middle and upper segments; high quality cotton rich shirtings produced for manufacturers of dress shirts located abroad and targeted at lower and middle segments; high quality cotton rich shirtings manufactured for

domestic producers targeted at the upper end of the market and high quality cotton voiles targeted towards women in the upper segment.

In order to address the identified product - markets, AML established a number of 100 per cent owned subsidiaries. An interesting feature was the fact that some of these subsidiaries were located outside the shores of the country, in America and Canada, Europe, Paris and South-East Asia. It holds between 25 to 50% of the equity in several associate companies which supports its overall strategy.

AML has substantial shares in the domestic market for denim, voile and cotton shirting. During the last few years, on an overall basis, its financial performance has also been improving. AML's core competence seems to be its ability to manage its entire process of production right from the stage of raw material procurement to using the right production technology and quality control measures.

AML possesses the only one of its kind R&D centre in India. It has strong relationship with suppliers of raw materials and machineries. Other important aspects which need to be kept in mind in understand AML's core competence are the presence of a strong distribution network developed over the years, management expertise and a committed work force. AML's deep understanding of textile technology through the use of research and development has enabled it to come up with technologically superior products at cost very much lower than that of its competitors. Good relationship with machinery

manufacturers has enabled the company to get machines tailor-made to their requirements. This can be seen in the case of Tsudakoma, a world renowned loom manufacturer, which on AML's suggestion, developed cost effective air-jet looms capable of weaving heavy weight fabrics.

A long presence in the industry helped the company in building a very effective distribution system. Large customers are serviced directly by the company's own sales force whereas smaller ones are serviced through a dealer network. Management expertise has enabled them to acquire unprofitable textile mills and convert them into a profitable one within a short span of time. The company has turned around several mills. Examples are Lakshmi Cotton Mills, and Nagri Mills Company Limited (Chauhan and Meera, 1995).

In the examples described in the foregoing the companies pursued strategies that were based on some core competencies and also facilitated their further development. Their core competencies enabled them to move into new markets, make improvements in their competitive positions in existing product-market segments and achieve overall success. Let us now understand in some detail the process of core competence development in one company: TELCO.

### **3. CORE COMPETENCE DEVELOPMENT: THE CASE OF TELCO**

Telco was incorporated on September 1, 1945, primarily to manufacture steam locomotives and boilers. In 1954 the company diversified into the manufacture of diesel

commercial vehicles in technical and financial collaboration with Daimler Benz AG of West Germany. By the time the collaboration ended in 1969, the company had established a strong foundation in automotive manufacture. During 1969-70 the company began the production of excavators and marine diesel engines in 1978. In 1988, with the launch of the Tata Mobile, the company made its maiden entry into the passenger car market. This was followed by a few other models like the Tata Sierra and the Tata Estate. In 1992, Telco set up its third plant in Lucknow in the northern state of Uttar Pradesh to cater to the growing demand in that region. (Website of Telco; Express Investment Week 7(2), January 6-12, 1998). Currently it is developing a small car to be launched in the market by the end of the year.

TELCO's immediate past performance during 1997-98 has been quite dismal, however, the commercial vehicle industry's performance has also been very poor due to recessionary conditions. If we take a longer period, TELCO's overall performance has been quite good. With sales of Rs. 100.97 billion for the year ending March 1997, Telco became the first Indian company to cross the Rs 100 billion turnover mark. Its net profit zoomed up to Rs.7.62 billion for the same year - an increase of 43.80 percent over the previous year. Telco's growth in sales turnover during the past few years has been impressive. For the period 1995-97 it achieved a compounded growth rate of approximately 33 percent and around 40 percent for the period 1994-97. Net profit for the same periods grew by approximately 53 and 94 percent. The export performance has not



been impressive during the last few years. Nevertheless Telco is reportedly the largest exporter of commercial vehicles in the country.

The company dominates the medium and heavy commercial vehicle (MCV/HCV) segments with a market share of 73% , and the light commercial vehicle (LCV) segment with a market share of 62%. In the utility segment it has a market share of 35%. The company's leadership position has been possible because of improvements in all areas of operation and new product launches. The company is the largest commercial vehicle manufacturer in India with an annual production of approximately 200,000 vehicles in the 2 to 35 tonne range. It accounts for over 75% of the total heavy and medium vehicle output in India (The Quantum Stock Market Year Book, 1998, Capitaline Ole Database).

There are several factors which have enabled Telco to achieve the present performance, the chief amongst which is its technology related capability. How has this come about? In the following paragraphs, we shall discuss the factors which have contributed to the development of Telco's technological capability.

#### **A. Role of Leadership**

The company was fortunate to have been led by Mr Sumant Mulgaonkar who had received his engineering education in Germany. He provided strong leadership to the company in developing its technological competence. The company set up a design centre as early as in 1965 when no other firm in the commercial vehicle industry considered

design' as an important function. Mr Mulgaonkar's vision was to develop Telco with strong design, engineering, manufacturing and marketing capabilities. The impact of his leadership manifested in the major decisions of the company as we shall see in the following paragraphs.

### **B. Technical Collaborations and Joint Ventures with Renowned Foreign Companies**

Telco has followed a strategy of teaming up with renowned foreign companies from different parts of the world to acquire new technologies from time to time. Beginning with a technical collaboration with Daimler Benz, A.G. of West Germany to produce 3 to 5 tonne class diesel vehicles it has entered into collaborations for manufacture of special purpose machines, hydraulic excavators, flexible manufacturing systems, aluminum casting, robots, diesel engines for medium and heavy vehicles, turbo chargers etc. Collaboration with well-known manufacturers has helped Telco in technological leap frogging. Many of the collaborations were not for producing final products but for production of machine tools. This helped the company to reduce capital costs of setting up new plants or creating additional capacity.

### **C. In-House Design and Development**

The thrust of top management in the company has been on achieving self-reliance in the area of technology through the development of indigenous capabilities. Telco's Engineering Research Centre, set up at Pune in 1967, is perhaps the largest design and

development group in the Indian automotive industry. It employs around 1100 people with a majority of them being designers and technicians. ERC's activities broadly are: ( i ) new product development, (ii) improvement of the existing products, (iii) value engineering, (iv) cost reduction and (v) first source development for new items. ERC has been conducting research on the use of a variety of fuels, it has also used computer aided stress analysis of camshaft, cylinder block and crank shaft in their design process. This has helped in reducing weight of the parts. Telco's R&D expenditure has been higher than that of its competitors in India.

#### **D. Self Reliance in Capital Equipment**

Telco has a separate machine tools division which produces various automation devices, material handling equipments, tools, dies and fixtures etc. The machine tools division has helped the company in getting timely delivery of special purpose machine tools and sophisticated equipments including high capacity automatic press and forging lines, high pressure moulding lines, CNC machining centres, laser cutting machines, transfer lines etc. required for the production units. These machines are much cheaper than those available from foreign suppliers. According to the company's management, the machine tools division has contributed significantly to the development of the technological skills of the people and has also helped the company maintain secrecy regarding product modifications and new products.

### **E. Standardisation and Functional Integration**

Another important aspect of its technical function is standardisation and functional integration. Telco has harmonised its standards with that of the Bureau of Indian Standards (BIS) wherever possible and has used International Standards Organisation (ISO) standards where BIS standards do not exist. The company is also in the process of equipping its products according to the requirements of EEC countries. Integration of relevant functions has also helped in shortening new product development cycle time. For example, the company involves the manufacturing group in the very first stage of the design of a new product. Drawings are analysed for developing the manufacturing process. The design is tested for manufacturability and assembly operations and then a process is developed for producing a new model. Once a prototype is made it is tested within the ERC and then the design enters the final stage. The standardisation department in the ERC has developed a computerised system called DENIS (Design Engineers' Information System). After the design specifications are approved they are entered into the computerised system so that they can be accessed by the concerned departments.

### **F. Emphasis on Manufacturing Productivity Through Technology Upgradation**

One of the significant aspects of Telco's manufacturing functions has been its emphasis on increasing productivity on a continuing basis through improvements in manufacturing processes. Its in-house machine tools manufacturing facility has contributed significantly to this. Throughout its history the company has laid emphasis on indigenisation and adaptation of technology acquired from foreign collaborators. Compared to Ashok

Leyland, which is the second largest competitor in the commercial vehicle industry, Telco has a higher average value-added to total cost ratio. Telco's productivity during the period 1977-1988 rose from 1.38 to 2.37 whereas that of Ashok Leyland rose from 1.24 to 1.46 (Kathuria, 1996).

The company has introduced new manufacturing and testing technologies from time to time which has helped in productivity improvements. Machine tools of an earlier vintage were retrofitted with sophisticated control systems. The productivity of older machines was also sought to be improved through a machine reconditioning programme introduced during the late 80s. During the early part of its history the automotive component industry in the country was in its infancy and hence it had become essential for the company to emphasise in-house manufacturing to a significant degree. However, since the beginning of 80s the country's auto component industry has grown by leaps and bounds. The company is now in the process of developing strategic alliances with several global players in the component industry. This is expected to help the company reduce its in-house manufacture of components.

#### **G. Emphasis on Quality**

Quality is a very important aspect of Telco's manufacturing and design philosophy. The entire automobile and construction divisions of the company's two main plants have received ISO 9001 certification. To meet the company's stringent quality norms, the quality assurance group starts from the procurement of raw materials. After numerous in-

built checks, an audit inspection group carries out random checks on components on the manufacturing line that have been already inspected through regular methods. The quality control and assurance function is supported by the company's emphasis on developing strong technical skills in its employees through a comprehensive technical training programme (Website of Telco; Bowonder, 1998; Capitaline Ole Database)

#### **H. Exposure to International Competition**

The company today exports its products to over 50 developing and developed countries though its exports are concentrated in the Indian sub-continent, the middle east, south-east Asia, African countries like Ghana, Uganda, Zambia, Nigeria, Egypt, etc. Early exposure to international competition has helped the company to build higher standards of quality. For example, though Malaysia is a developing country, the market for commercial vehicles is very sophisticated. Customers demand vehicles with high horse-power, sophisticated controls, superior finish and appearance and ability to withstand difficult climatic conditions. The middle-east countries have tightened emission standards to be on par with the EEC countries.

#### **L. Related Product Diversification**

Telco currently manufactures a variety of diesel commercial vehicles in heavy, medium, light weight categories. It also produces excavators in different categories, marine engines and a range of machines primarily for captive use, numerically controlled and computer numerically controlled machine tools, press tools, dies, forgings and castings, material

handling equipments, spot welding guns, electronic controllers and computer software. It also produces three models of passenger cars and the latest product which Telco is currently developing is a small car code-named "MINT". Recently the company launched the Safari, its new five-door sports utility vehicle. All the products it sells are closely related. This has enabled the company to build on common technological skills and facilities.

#### **4. CONCLUSION**

The significance of core competencies is now well recognized. Its role in enabling firms to respond to customers' rapidly changing needs and combat competition is well documented. However, the applicability of this concept in regulated and protected economies is an area that needs the attention of management scholars. In this paper we considered the case of India which had followed a protectionist economic regime since independence till the beginning of the 90s.

Our brief discussion of several companies brought out the role of their core competencies in their overall development processes even in the pre-liberalisation period. The description of the capability development process in TELCO highlighted the role of several important factors. It would not be wise to hazard any generalisations on the basis of the brief discussion in this paper. However, it is worth reiterating that core competency development is a complex techno-managerial process as evident from the TELCO case. It requires a high quality of leadership which can provide long term vision to the company's

development process. Once developed the core competencies in an organisation have to be maintained and further developed through constant use in increasingly sophisticated and challenging situations. Core competencies if managed effectively can help a company create a competitively unassailable position.



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