



Manufacturing Sector, New Challenges and Opportunities –A new mode “Make in India”.

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Abstract

The manufacturing sector is the backbone of any economy. It leads to growth, productivity, employment, and strengthens agriculture. The contribution of this sector in GDP was 17 % in 2013. India's economy is expected to grow at 7.4 per cent in 2014-15 as per a Government forecast. According to a new formula which uses 2012-13 as the new 'base year', the revised statistics showed inflation-adjusted economic growth rate for October-December 2014 at 7.5 per cent. In the world making India is the fastest growing economy. In Today's marketplace the manufacturing sector faces many challenges. It fuels employment, productivity, growth, and strengthens service and agriculture sectors. The mostly significant challenges are finding and retaining skilled & efficient labor, global competition in economy, control the cost pressures, and adapting to different consumer needs, electricity, land and water, absolute technology, lack of knowledge about research and development. Mr. Narendra Modi, the Prime Minister of India initiative launching a new concept of “Make in India”. It aims to give global recognition to the Indian economy and also provide a place of India on the world map as a manufacturing hub. Therefore, the objective of this study is to investigate the challenges and strategies facing by manufacturing sector in India. Manufacturing sector is the backbone of any economy. This paper is based on secondary data and the data has been collected by various websites journals etc.

Keywords: GDP Growth rate, Infrastructure, employment, Government incentives, Research and development, manufacturing sector,

INTRODUCTION

Manufacturing can be defined chemical and physical transformation of material into product on large scale using machinery and chemical equipments to production of handmade goods for personal use. Manufacturing sector is the backbone of every economy. It's based on growth, productivity, employment, and strengthens agriculture and service sectors. Indian Manufacturing' sector is broadly divided into four areas –

- ✚ Basic goods ,
- ✚ Capital goods,
- ✚ Intermediate goods
- ✚ Consumer goods.

Normally basic good wanted not for its own sake but for the goods derived from it. For example- Electricity, coal, finished steels, fertilizers, cement, pipes and tubes, heavy structural, cathodes. Capital goods have value retention as assets like commercial vehicles, electric motors, textiles machinery tools, contactor, wagons. Intermediate goods are objects used in production of final goods

like jute & textiles, paints, enamel and varnishes, bolts & nuts, tin metal containers, products, petroleum, cotton yarn. Consumer goods are those that end up being consumed. For example-sugar, tea, wheat/Iron, artificial leather cloth, cigarettes, soaps, wrists watches, phone instruments.

The manufacturing sector has little contribution to income growth and its share in total merchandise exports has been declining. Manufacturing India has also set for itself an ambitious target of increasing the contribution of manufacturing output to 25 per cent of gross domestic product (GDP) by 2025, from 16 per cent currently. The Productivity of the manufacturing sector is low, because the small size of manufacturing firms makes it difficult to exploit economies of scale. In Despite of relatively cheap labor and low skilled labor, Indian manufacturing is surprisingly capital and skill intensive. The Government of India is an attractive hub for foreign investments in manufacturing sector. Several mobile phone, luxury and automobile brands, among others, have set up or are looking to establish their manufacturing bases in the country.

GDP or Gross Domestic product was first developed by Simon Kuznets for a US congress report in 1934. Kuznets also warned in his report against using GDP as a measure to assess the common welfare of the country's citizens.

GDP = C + G + I + NX

C = All private consumption or consumer spending in a nation's economy.

G = All Government spending.

I = All country's businesses spending on capital.

NX = (Total Exports) - (Total Country's imports)

So, a country's growth rate is calculated in terms of GDP. **Now, coming to the factors/sectors contributing to India's GDP, there are three main sectors contributing to India's GDP, they are,**

- ❖ Agriculture - Contributes around 18% to India's GDP now, with 60% of workforce dependent on it
- ❖ Industries - Contributes around 28% to India's GDP now, with 18% of workforce dependent on it
- ❖ Services - Contributes around 51% to India's GDP now, with 23% of workforce dependent on it

When India achieved Independence, the Agriculture sector contributed around 54% to India's GDP, and right now, it contributes around 18% to India's GDP..

Even if we invite the whole world to “**Manufacture(make) in India**”, even if the whole world comes down to India to make their goods, even if the growth rate of the country spikes beyond 10% annually, still it does not guarantee prosperity across all sections of the society.

There are different Strategies for addressing those challenges include mergers and acquisitions, improve manufacturing processes, new technologies and innovation and relocation of production to reduce the low-cost regions, improving the urban infrastructure, increase investment in research and development, reduction on import duties, quality improvement in vocational and higher education. Government leaders, experts, and researchers focusing towards making Indian manufacturing globally competitive and to have a sustained growth, which contributes significantly to GDP growth, employment generation and overall economic development.

Literature Review

A lot of studies have been done in manufacturing sector after liberalization. A few important review studies have been there. **Fikker and Hason (1998)** a study is based on return to scale for a panel selected Indian manufacturing industries for the pre liberalization period from 1976 to 1985.using restricted cost function. This study suggests that there are not significant gains in scale efficiency from the tentative steps in economic liberalization in the 1980. A critical study by **Kusum das (1998)** related to productivity growth with different measures of trade liberalization.

Study by **Hulten (1999)** shows that there is a little evidence of any positive impact from the initial economic reforms on total factor productivity growth of the Indian manufacturing industries. This study found that there were other positive impact on investment, labor productivity and capital per worker from economic reforms.

A study by **Burange (2002)** reveals that since economic liberalization, the states in India are making concentrated efforts to improve industrial performance. The data is based on ASI (annual survey of industries).The duration of time covered by this study1980 to 1997-1998.Study by **Unel (2003)** on productivity trends in Indian manufacturing concluded that total factor productivity growth in aggregate manufacturing and many sub –sectors accelerated after the 1991 reforms.

A study by Papola **(2008)** examines the related aspects of the current pattern of growth in manufacturing sector in India .This study reveals that a high rate of economic growth without accelerated growth of industry.

According to the **US Department of Commerce (www.trade.gov)**, sustainable manufacturing is defined as the creation of manufactured products that uses processes that minimize negative environmental impact, conserve energy and natural resources that are safe for employees, communities, and consumers and are economically sound. According to reports by **2020**, India is set to become the world's youngest country with 64% of its population in the working age group.

Objective of study

- To analyze the manufacturing sector in India
- To analyze the new Challenges facing manufacturing sector in India.
- To analyze the Strategies to overcome these challenges.

Research methodology

Data Sources

Keeping in view the broad objectives of the study, secondary data from published sources shall be obtained about various parameters. The Basic sources of data will be Annual Survey of Industries, Central and Statistical Organization New Delhi.

Data Analysis

The data shall be analyzed based on factor affecting of manufacturing sector in India. The data analyzed challenges and opportunities of Indian manufacturing sector which is based on GDP, infrastructure, research and development .A Data shall be used to analyze the underlying adjustment of capital, labor and output growth in response to changed environment.

Challenges in the Manufacturing Sector

Industry challenges

In Today's market place manufacturing industry face many challenges. The uncertain global economic environment since 2008 has complicated life for manufacturers everywhere. The most significant challenges are finding and retaining skilled & efficient labor, global competition in

economy, control the cost pressures, and adapting to different consumer needs, electricity, land and water, obsolete technology, lack of knowledge about research and development.

• **Global competition in economy**

In today world has Globalization. Companies can move their production, material in low labor cost in anywhere of the world, manufacturers increasing access to developing markets. Through the globalization of supply chains, as firms around the world compete for business. Increasing global competition in economy the American and European firms have benefited from this arrangement because they are able to purchase materials and labor at lower prices. But it has also faced some fierce competition. When a manufacturing industry shapes their production many factors are affecting like- revolution of technology which has reduction in cost and increase productivity, In manufacture goods reduction in barrier to trade.

Merits and demerits of global competition

In global Competing markets have advantages and disadvantages for global manufacturers.

Pros –

Comparative advantages of those countries which produce goods and services, so that productivity grows more quickly. An open economy spurs innovation with fresh ideas from aboard. A developing nations investing there large amount in technological advances, plant manufacturing and modern equipment, investment in skill development, therefore a labor productivity and capital productivity has been increased such that economy should be developed. At the same time as emerging markets are offering global manufacturing companies opportunities for investment, these countries are making great strides forward in developing their own domestic industries.

Cons-

Workers face pay-cut demand from employers, which often threaten to export jobs .those companies operating under competitive pressure facing a problem of losing their jobs. Blue and white collar jobs are increasingly vulnerable to operations moving offshore.

Research and development

These days’ manufacturers have decreased investment in R&D. Although they realize that R&D is needed to provide breakthroughs in both production technology and products. Investment in R&D has had the most direct effect on manufacturers’ efforts to recruit and fund high-caliber scientists, engineers, researchers, and other staff. In turn, this affects the amount of time it takes a product to move from R&D to commercial release, or “time-to-market.” A manufacturers has faced number of challenges in R&D activity –

- High cost
- Long time scales
- Uncertain outcomes

Revenue growth

Manufacturing companies earn more and more revenue generating. Manufacturer expands there market in global economy resulting in more competition for business. Revenue growth has slowed as manufacturers compete for a shrinking market share.

Increasing factor costs

Most multinationals that produce labor-intensive goods, like textiles and apparel, are actively seeking to diversify beyond India to reduce costs and mitigate political and supply-chain risks. India based processors of goods such as beverages; fabricated metals, food, and tobacco are also concerned about rising costs, including those for packaging.

Increasing value chain complexity

Another big challenge is rising value-chain complexity that accompanies consumer growth. rapid urbanization require product makers to manage, make, and deliver an array of increasingly diverse and customized products to increasingly remote locations. Another issue is relevant for technology companies and others responding to the India consumer have increasingly sophisticated tastes. But rising value-chain complexity is also a worry for manufacturers of more labor-intensive goods, given the sheer variety of products they make, and for regional processors, whose logistics networks are affected by urbanization and increase infrastructure development.

Maintaining profits

Manufacturers are also concerned with their bottom line (profits). Emerging markets have recognized the benefits of pursuing higher-valued manufacturing endeavors, and have adopted the efficiencies and techniques that, historically, have allowed manufacturers in traditional markets to dominate high-end product markets. Profits have therefore diminished as these manufacturers are forced to keep product prices in line with low-priced imports, both at home and in overseas markets.

Finding and retaining skilled and efficient labor

In today's environment manufacturing industry has a problem locating, and retaining, skilled and efficient employees. Retaining skilled and efficient employees in organization is a big issue because a high rate of employee's turnover results in a loss of knowledge .the cost of losing an employee's includes lost productivity and recruitment effort. A large amount of money and time spend in attracting, recruiting, selecting, inducting, monitoring, mentoring, developing and rewarding these employees. Some factors that influence people to stay in business like-

- ❖ Good Leadership
- ❖ Work itself
- ❖ Pay structure & personal life
- ❖ Recognition,
- ❖ Economic climate and culture

There are three main reason include -

- **Employability** – Work ethic, attendance, and reliability are basic requirements, but they're lacking in a great many applicants. a modern manufacturing plant is also looking for employees who can work as part of a team, multi-task, and work through minor problems, the absence of even the most basic skills is cause for concern.
- **Industry image** – The image many people have of manufacturing is one of toil in a dark, often dirty and potentially dangerous environment. The pay structure is low and job security is non-existent. Upcoming of new technology the no of unskilled workers are increasing. Layoff, transfers, retrenchment are the other reason that employees are demotivated.
- **Training gaps** – In addition to the difficulties involved with attracting skilled labor, the manufacturing industry has also been struggling with training the employees it already has. Getting employees to enroll in, and complete, job skill training has proven difficult.

Control cost pressures

There is an increasing range of forces making it more expensive to do business in traditional markets. Manufacturers are under intense pressure to do more, to do it quickly, and to do it for and with less. Over the years, some of the major costs in the manufacturing industry have increased. In order to sustain a competitive advantage, manufacturers are scrutinizing these cost pressures. The major cost categories in manufacturing are

- **Energy** – Energy costs have had a massive impact on the industry. The high cost of oil has had an impact on transportation costs. Manufacturers have coped with rising energy costs in different ways. Some have moved operations to countries where the power supply is cheaper. Others have concentrated on seeking out alternate sources of power and maximizing efficiencies in their operations
- **Raw materials** – In recent times manufacturers could forecast what their costs would be with reasonable accuracy, and according to this calculate both expenses and prices. Many manufacturers are caught between rising costs and consumers who reject higher product prices and shop the global marketplace to find the best deal for goods. There are a number of reasons for the volatility of the price of raw materials. Emerging economies are consuming vast amounts of copper, steel, and other metals. New technologies in sectors like aerospace are increasing the demand for rarer and more specialized materials.
- **Taxes** – Taxes influence every aspect of doing business, as manufacturers influenced with corporate income tax, property taxes, sales and excise taxes paid by the business, various workers' compensation taxes, unemployment insurance and licensing taxes. The complicated nature of most tax systems also results in high indirect expenses for archiving, bookkeeping, accounting and record keeping. Many countries are lowering corporate income taxes to lure business investment.

Adapting to different consumer needs

In current environment a key to success is the ability to anticipate what customers want or need, and then bring that product to market before the competition. Indian customer expectations have been increased. Customers are demanding an unprecedented level of control over the market. They expect better service and more information. In fact, due to the speed of the Internet and wireless communications available today, customers have become used to getting what they want almost instantly. When a manufacturer produced a goods in market it analysis all the factors and environment which affect the production .Analysis the different customers' needs.

Strategies for overcoming challenges

In recent years, manufacturing industry has been faced with a number of challenges. Strategies for addressing those challenges include mergers and acquisitions, relocation of production to low-cost regions, new technologies and innovation improved manufacturing processes.

Mergers and acquisitions

Mergers and acquisitions can strengthen a company's position in the marketplace by combining the assets of the companies involved. In some cases, a company can enter a new market simply by merging with, or acquiring, a company that has the necessary technology or expertise.

Every company considering the mergers and acquisitions path has its own unique set of motivations. Three of the most common reasons manufacturing companies enter into mergers and acquisitions are

- **Cost synergies** – The merging of two or more companies' means that services and resources can be shared, resulting in many opportunities for cost savings, or "synergies."
- **New technologies** – Technology is essential to maintaining a competitive edge, but purchasing that technology can be expensive. Merging with, or acquiring, a company with advanced technologies is an effective way to acquire those technologies while avoiding the time, money, and risks associated with developing them independently.
- **New markets** – Mergers and acquisitions also present an opportunity to access new markets or revenue streams. Acquiring a company often means acquiring that company's customer base as well.

Improved manufacturing processes

Selecting the right process can significantly improve a company's bottom line and set the company on a course for growth. There are a variety of established processes or systems to choose from, each with its own strengths and weaknesses. The top four are

- **Six Sigma** – The advantage of Six Sigma over other types of systems is its adaptability. It also requires the participation of the entire company, which promotes a sense of teamwork as opposed to a set of rules that are imposed from the top down.
- **Total quality management (TQM)** –TQM is less concerned with efficiency than other systems, focusing instead on creating a better product and better value for the customer. The end result is a reduction in the amount of rework or inefficiencies involved in frequent stoppages related to rework.
- **Lean management** – Lean management is a form of quality management that looks to eliminate inefficiencies and reduce costs companywide.
- **Just-In-Time (JIT)** – JIT is a system that looks to eliminate waste and inefficiencies in the manufacturing process. By producing products in smaller batches, manufacturers have fewer inventories to manage and more flexibility to adapt to the ever-changing needs or wants of the customer when the product is needed.

Manufacturers also face challenges when it comes to finding and keeping skilled labor. A strong, well-established system can have a positive impact on the company's employees and their role within the organization. Systems that incorporate organizational roles are an effective method for identifying future candidates for leadership roles.

Relocation of production to low-cost regions

One way manufacturers can address cost pressures is to take advantage of foreign markets as a means of reducing production costs. The pressure to reduce costs is enormous, and often requires moving operations to all parts of the globe. This has been a common practice among large manufacturers for many years, but it's now becoming more common for smaller companies who are subject to the same pressures. In addition to production, other operations like sourcing, designing, and engineering can be moved to those same regions as a means of reducing costs.

New technologies and innovation

It includes new green technologies that eliminate waste during production. The benefits of innovation may include greater ability to respond to customer demands, less waste and downtime, better product design, improved product quality, and improved relationships with suppliers and customers. An important point to remember when it comes to innovation is that change for its own sake is not inherently good or profitable. Innovation must be the result of a particular business need. In the case of production, innovation can be introduced in IT systems, sourcing, materials, stock control, warehouse logistics, factory processes, equipment maintenance, and accounting procedures. In the case of sales and marketing, innovation can be sought in customer-supplier relationships, and design and marketing.

IT solutions

New technologies and software packages have emerged in recent years to help manufacturers improve their business performance. Some of the IT solutions available include

- **Enterprise resource planning (ERP)** – a single piece of software that connects departments throughout the organization. ERP provides a high level view of the manufacturing operation, showing each department's position to facilitate resource allocation and the planning of production schedules.

- **Supply chain management** – software tools that manage the flow of materials and products from supplier to manufacturer. These tools also manage internal processes and those between the manufacturer and their customers.
- **Computerized maintenance management** – electronic systems designed to monitor plant and equipment assets. These systems help to identify maintenance requirements and collect information for accounting purposes.
- **Product data management** – electronic systems that can help reduce the time and costs of getting a product to market.
- **Manufacturing execution systems** – software tools designed to improve factory management by analyzing factors like downtime and waste.

Findings

- ❖ The cost of manpower is relatively low as compared to other countries.
- ❖ Well-regulated and stable financial markets open to foreign investors.
- ❖ The country is expected to rank amongst the world's top three growth economies and amongst the top three manufacturing destinations by 2020.
- ❖ Strong consumerism in the domestic market.
- ❖ Strong technical and engineering capabilities backed by top-notch scientific and technical.

Conclusion

The “Make in India” program kick started by the central government last year has been a good step and helped catch the attention of India's top grossing private companies in the automotive/manufacturing sector. A manufacturing sector faced many challenges like controlling cost pressures .increasing factor cost, increasing labor chain complexity. Similarly some challenges are taken to resolve these problems like merger and acquisitions, new technologies and innovation. To control the cost pressure and provide a good environment to the labor though they work with their full efficiency.

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