

# Need and Benefits of Manufacturing Electronic Components and Equipment Locally

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*Abstract*—Although Kenya's electronic industry is still at its infancy, a number of firms in the assembly, testing, repair and maintenance of electronic goods are in operation and are rapidly increasing their scope of activities to meet the growing demands of the industry.

Even if a few of these companies have started most of the electronic components and equipment are being imported. This leaves our country at a loss since we will continue relying on foreign countries in terms of manufacturing.

Key opportunities for direct investments, joint-ventures and subcontracting exist in assembly of a wide range of electronic goods in Kenya, especially within the Manufacturing Under Bond scheme and Export Processing Zone Programmes. These include the production of; resistors, capacitors, inductors, diodes, transistors and integrated circuits. Consumer electronics, such as colour televisions, Video Cassette Recorders (VCRs), printers, floppy disk drives and Compact Disk Roms (CD-Rs); Telecommunication equipment, such as printed circuit boards, and transmission equipment; and Support items such as cables, cords, die casting and metal plating.

With a labour force which is well-equipped to meet the labour skill requirements for the industry and the relatively large domestic and export market potential of electronics in the region, Kenya offers an enormous potential for the manufacturing and assembly of electronic items.

This paper aims at encouraging Kenyans to come up with firms which can manufacture electronic components. This can help a lot in achieving the vision 2030. The benefits of local manufacturing are so many that the government through ministry of industrialization should come up with policies which can create a conducive environment for electronic component and equipment manufacturing.

Benefits are like creation of employment, enhancing economic growth and creation of a very good research and learning environment.

I believe that if such a firms are created then our country can compete with China which is now becoming an economic giant since this is where they started from.

*Keywords*—manufacturing, electronic components, vision 2030

## INTRODUCTION

Manufacturing sector is considered one of the largest wealth producing sectors of an economy.

The manufacturing sector in Kenya dates back to the end of World War II. The sector is expected to play a critical role in propelling the economy a 10 per cent growth rate, in line with the aspirations of Vision 2030 and in supporting the country's social development agenda through the creation of jobs, the generation of foreign exchange, and by attracting foreign direct investment. To meet those goals, the sector has to become more efficiency-driven, raising productivity per unit of input (especially of labour and capital) closer to those of Kenya's external competitors. In turn, the Government will continue its reform programme to give the country an internationally competitive business environment. This sector will therefore be expected to use state-of-the-art technology that is both efficient and environmentally-friendly in an effort to make Kenya a dynamic industrial nation. (Kenya Vision 2030 final report 2007)[1].

According to the Vision 2030 report the following four factors have contributed to the lack of competitiveness in the sector:

*High input costs:* Expensive and often low-quality raw materials, rising labour costs,unreliable and expensive have led to high costs of production. Poor infrastructure and inadequate services, such as water and other input supplies, have also contributed to the high cost of local manufacturing.

*Low productivity levels:* Capital productivity in the Kenyan manufacturing sector is particularly low, compared to regional and global productivity levels. Low investment levels have resulted from high levels of uncertainty in the business climate, diminished expected returns on investment due to high costs, and lack of long-term financing.

*Inefficient flows of goods and services:* Inefficiency in the local transport and logistics sector (e.g. port, rail and road transport services), greatly hampers the ability of local manufacturers to access and be competitive in regional and global markets [2].

*Unfavourable business environment:* The unfavourable business environment arises from heavy regulation, weak trade agreements, lack of rigorous legal enforcement, incidences of insecurity, as well as limited access to capital. Over the years however the government has put into place mechanisms to facilitate the achievement of the vision 2030, mile stones for which include the new constitution, the economic stimulus program, improved infrastructure and government policies. As such the environment in Kenya is conducive and warming up to all manufacturers including those of electronic components.

## **NEED AND BENEFITS**

There are a number of benefits to manufacturing (directly and or indirectly), including the creation of jobs and development of new technologies (for which electronics play a vital role) and overall economic development of a country.

Local infrastructure requirements before establishing any manufacturing firm can include those items that influence shipping of your finished product and receipt of incoming raw materials (such as airport accessibility, quality of roads, customs procedures and freight carriers) to the quality of local technical support - including laboratories and universities. Human resource requirements focus on the availability and costs of labor, trends on employee retention, the expatriate environment and several other considerations.

Kenya has all the above and those that are not up to international standards are being developed, road network for instance [3].

### *Demand for Electronic Components*

Kenya was ranked in a recent study among the first nations in Africa with the fastest rate of adopting technology. As such there is an increased demand for electronic devices not only locally but also regionally especially since few electronic manufacturing firms exist (in the region). As a result an electronic manufacturing company will have available market not only locally but regionally and internationally as well.

This industry is highly dependent on the computer industry and makers of the telecommunications products such as mobile phones, computers, laptops, modems and other electronic items most of which are imported mostly from Asia. A local manufacturing company with quality products and competitive prices may win the market and export its products

### *Foreign direct investment (FDI)*

Foreign direct investment (FDI) may increase host country productivity through improved resource allocation, increased competition, and expansion of local capabilities through a transfer of (technological) know-how (Caves R.). Expansion of local capabilities occurs if FDI introduces superior organizational practices and technologies and if this know-how spills over to and is assimilated by local suppliers and customers, the local workforce, and local rival firms.

The country would greatly gain especially if the investing countries are technologically ahead of Kenya. The spill overs will increase the probability of locally owned firms to adopt new technology, start export activities and become more competitive.

### *Employment*

A survey showed that the computer and electronic product manufacturing industry employs 1.2 million wage and salary workers in the United States, others workers were self-employed. The industry is comprised of about 19,100 establishments in 2008, many of which were small, employing only one worker or a few workers. Large establishments of 100 or more workers employed the majority 78 percent of the industry's workforce.

Companies in the electronics manufacturing industry also may employ many additional workers in establishments that are part of other industries. Some workers who perform R&D work at separate research establishments that are not actually part of a manufacturing facility in this industry, although they are owned by the companies in this industry. These separate research facilities are usually included in a different industry - research and development in the physical, engineering, and life sciences.

Manufacturing is a source of employment both directly and indirectly especially to the host cost and thus improves the standards of living and the general nations wealth.

### *Ripple Effect*

Although some of the companies in this industry are very large, most are relatively small. The tradition of innovation in the industry explains the origins of many small firms.

Most electronic products contain many intermediate components that are purchased from other manufacturers. Companies producing intermediate components and finished goods often choose to locate near each other so that companies can receive new products more quickly and lower their inventory costs. It also facilitates joint research and development projects that benefit both companies. As a result, several regions of the country become centers of the electronic products industry. In the end the initial electronics manufacturing firm leads to other related firms and

subsidiaries of the original firm. As a result may regions of a country benefit [3].

#### *Conducive Factors determining localization.*

The reasons why a manufacturing industry is situated in one place rather than another are stated to be as follows: nearness to materials; nearness to markets; presence of water power; a favorable climate ; a good supply of labor; presence of capital available for investment ; the momentum of an early start. The first six of these items combine to limit broadly the area within which it is economically possible to develop an industry; but, as the last item indicates, the exact place within this area where the industry takes root is very often determined by the influence of some pioneer whose personal interests have caused him to fix upon some special spot. Then if it chanced that such an industry is successful, it soon gains a momentum strong enough to enable it to continue in the original locality, sometimes for a long period after the advantages which it once possessed have disappeared. We shall now take up briefly the seven items just mentioned as determining the localization of an industry and, in particular, of a manufactory [4].

Kenyan has most if not all the above factors, what we need is setting up of a initial local electronic manufacturing firm either funded by foreigners or locals who will take full advantage of the virgin opportunity

#### *Labor supply*

Manufactures regularly are established in sections where there is a good supply of labor near at hand. An industry requiring thousands of laborers in a single plant cannot exist in a sparsely settled region. Kenya's labor is mobile, but not indefinitely so. The labor draws the industry, as well as the industry the labor. Here is where the Kenyan urban centers have a great advantage. There are a lot of unemployed people (youth especially) who are at their prime, with varied educational background and would provide the required labour.

Considering the electronic manufacturing industry is not labour intensive, currently available labour will suffice and economically so.

Manufacturing has a long history in the United States. During the industrial revolution of the 19th century, the United States went from being a nation that made most of its money in farming to being a country that produced the bulk of its economic exports in the form of manufactured goods.

Manufacturing is a source of jobs, as well as the segment from which is derived a significant portion of the nation's wealth. When a country exports more than it imports--a condition referred to as a trade surplus--it generally receives more money than it spends, which results in greater wealth.

There are a number of benefits to manufacturing, including the creation of jobs and development of new technologies. According to the Business Council of New York State, manufacturers in the U.S. are responsible for almost two-thirds of private-sector research and development [5].

All these site-specific elements must be included in a total cost of doing business that need to be addressed in your *Business Case*. Finding the ideal facility, but having to contend with a high cost for shipping and materials inventory, combined with an unattractive location to attract labor, will probably not provide the optimal site location solution.

West Africa can be extremely competitive with labor cost, the governments in various nations in West Africa are much more flexible than China.

#### CONCLUSION

Many countries have managed to grow economically by manufacturing components and equipment locally. A very good example is china which has now overtaken Japan. I believe if Kenya was to do the same, our country can grow economically and achieve its vision 2030. This can enable the youth to get employment and make Kenyans have good living standards.

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