



Japanese SMEs' Strategy in the Era of IOT and AI

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Received: September 17, 2020

Published: October 30, 2020

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Japanese SMEs have been cooperating with the major Japanese manufacturers as their subsidiaries, extensively developing vital technology, manufacturing the main parts and components for them.

In Japan, the share of SMEs in the number of Japanese corporations are 99.7%, about 70% of the total employees and added value amounts to about 53%. Thus, Japanese SMEs are playing an important role in the Japanese economy. Therefore, the Japanese Government's support to SMEs is vital in Japan.

Due to the recent Japanese inactive economic activity, constantly decreasing population and insufficient consumption in domestic market, the parent companies of SMEs have been shifting their manufacturing units to overseas.

Under such circumstances, following the parent companies, SMEs have been obliged to shift their manufacturing operations to overseas.

The manufacturing technologies, which SMEs acquired in Japan have been transferred to overseas in order to survive in acute competition.

In case of transferring the technologies to overseas, we must pay a full attention and care not to be copied their unique technology by protecting patented technology and trade marks.

As mentioned above, the Japanese SMEs have greatly contributed to the development of manufacturing technology and employment.

Hence, to sustain development of nation's economy, the promotion policy for SMEs is vital. In addition to Japan, Taiwan, Italy, Germany, and the USA have been promoting assistance to SMEs.

At the 4th Industrial revolution in Japan, not only major manufacturing corporations but also SMEs have been experiencing the greatly changing era.

To countermeasure such an ever big change, the development of Digital Economy is much required.

In Japan, the acute shortage of labor power is so eminent both in big corporations and SMEs. Furthermore, the quality of labor powers is critically important.

In the future, the corporations should have AI and IOT skilled persons, which will be vital and crucial for the Japanese companies.

It is imperative for the Japanese SMEs to take countermeasures for the future, making the best use of the TAKUMI's professional arts technique and product quality, which have been remaining in manufacturing process.

The share of GDP of Japanese manufacturing companies has been declining to 20.7% from 26.6% in 1990. Therefore, in the future, Japanese manufacturers should provide need-oriented services, making the best use of quality data. Especially, under the 4th Industrial Revolution, it is required to maintain the skilled employees with the suitable systems, digitizing the technology and arts. Furthermore, thorough cutting of the human power and increasing productivity are essential for strengthening the global competitiveness.

In the Japanese manufacturing industry, the shortage of labor power, as often mentioned above, has been big problems for the management. 95% of Japanese corporations have problems in securing human powers. (According to METI researches in December in 2016, 2017 and 2018 respectively).

The manufacturing corporations must skillfully handle the complicated problems in the process of the 4th Industrial Revolution under the rapid progress of globalization and protectionism with an acceleration of social business.

The Japanese share of final products of electronics in the world has been decreasing. However, the share of cars and their parts and components has been increasing. In rapidly changing world, we should combine IT with traditional manufacturing process to create and provide new customers' value.

It is imperative to utilize data, taking into consideration of the world value chains to reduce the cost in the manufacturing process. It is utmost important to establish new business models by making the best use of the quality data at the manufacturing process in compliance with customers new needs.

Japanese manufacturers are ahead in comparison with China, the USA and Germany in "Quality of Products". "Problems Finding" and "Problem Solution" ability in the development of technology.

However, Japan is behind the above countries in "Planning ability of merchandising, marketing, automation of production and saving man power". Therefore, Japanese manufacturers must strengthen market creation ability, making the best use of superior quality and advanced technology.

According to the regulation of the products, to countermeasure global warming and plastic wastes, the manufacturers must create customers' value and they should comply with SDGs. Thus, they should create business chance.

To take an advantage of Digital Age manufacturing, it is imperative to recruit capable and able persons (human resources), who are able to combine AI and IOT to compete in the severe global competition in the manufacturing arena.

Thus, it is imperative for the manufacturing corporations to recruit the capable persons who can organize the systems in the company and can digitize technology to compete and survive in the fierce global battle in the 4th Industrial Revolution Era [1,2].

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