Student 1: Low Excellence

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[1] The basic foundations of what has become known as the Toyota Production System (TPS) started in the early 1900s in Japan within the operating procedures established by the Toyoda Spinning and Weaving Company. This was a manufacturing company that had built a solid reputation for producing high quality hand looms. Its founder Sakichi Toyoda had a personal management philosophy that was based on human respect. This respect applied to everyone involved in the production chain - from his material suppliers, all those working in his factory through to the eventual customers and those who used the looms his company produced. The Toyoda Company developed and mass manufactured the first steam powered loom that could detect a broken thread and stop itself automatically. This prevented much of the expensive waste which was a feature of the textiles industry at that time. It was an innovation that not only signalled the company's drive for manufacturing efficiency through minimisation of waste but also for continuous process improvement by developing and using intelligent automation.

….Sakichi's son Kiichiro took an interest in the emerging field of automotive manufacturing and in 1937 founded what later became the Toyota Motor Corporation. Kiichiro took his father's faith in intelligent automation and paired it with his own complimentary philosophy – 'Just in Time' (JIT) manufacturing.

[2] The impact of the high levels of debt and shortage of raw materials in the years following the involvement of both Germany and Japan in the 1939 – 44 Second World War hit hard and was potentially crippling. The USA was the established and largely unchallenged world leader in the post-war global manufacturing market with industrial productivity many times greater than that of Japanese manufacturers. In Toyota's move towards post-war economic recovery the need to be able to manufacture vehicles efficiently became greater than ever.

In Japan one of Toyota's young engineers Taiichi Ohno, was given the challenging responsibility for increasing the company's productivity to try to match that of its American competitors. Taiichi succeeded in merging Kiichiro's JIT concept with the Toyota principles of intelligent automation and human respect. His aim was to create a manufacturing system with a smooth continuous optimised flow of work – cutting out any wasteful storage of yet-to-be used or waiting-to-be-sold materials. He based his work on the thinking of the American pioneer of quality control Dr. W. Edwards Demming. His recommended management strategies focused on improving quality at every stage in a business – from product design, through manufacturing to after sales support. A new Toyota Production System was established. Its aim was to fully satisfy customer demand by linking all production activity to marketplace demand – with inventory costs minimised by having the required parts arriving at their point of use just as they are needed. Processes would be re-designed to be more flexible to allow for easy switching of products allowing the exact quantity of what is needed to be produced when it is needed. In this type of production system all waste is minimised – including not only inefficient use of raw materials, but also things like over-production, the need for re-work and unnecessary transport and long-term storage.

The result of this restructuring meant that the Toyota motor company recovered more quickly than other equivalent companies after the Second World War and by the mid -1950s the company had become the leading car manufacturer in Japan.

When the global oil crisis hit the automotive industry over the early 1970s and into the 1980s Toyota proved to have much more resilience than equivalent American car producers. General Motors recognised Toyota as a growing player in the global car manufacturing industry and approaches were made for the setting up of a joint venture to make small cars in the USA. Joint production started in California in 1984. Despite some initial resistance, the Toyota Production System was successfully integrated, and was largely responsible for the new manufacturing plant becoming the highest ranked in USA for quality. The plant then stood as a clear indicator of the mutual benefits to be gained from well-planned industrial collaboration between Japan and USA.

As car manufacturing moved into the 21st century industrial globalisation became the norm and the successful implementation of the TPS solidified Toyota's position as an industry leader with manufacture and sales expanding into over 150 countries world-wide. A management commitment to continuous improvement in every phase of products and operations has remained as the basis of this success, however the Toyota model has had to adapt and evolve to suit what has become a constantly changing global operating environment. Rapid developments in new technology have opened up possibilities for both new product and process design. However, the competitive nature of the operating environment has increased the pressure on management to invest selectively and wisely in order to maintain competitive levels of productivity.

[3] In Australia, Toyota rationalised its car manufacture with production being centralised at the Altona plant in Melbourne to produce expected productivity benefits. Among the models produced at the factory was the environmental friendly Camry Hybrid – a model developed to address world-wide customer demands for increased fuel efficiency and reduced harmful environmental emissions. Engines for this new model and other Camry models had been initially imported for final car assembly. In 2012 a new 'Powertrain' plant was commissioned by Toyota with financial support from the Australian government. This would allow not only the manufacture of these Camry engines for Australian consumption, but created opportunity for export of the engines to other car manufacturing plants in South East Asia. The plant went into full production in early 2013 producing approximately 450 engines per day.

However in February 2014 Toyota made the surprise announcement that it will stop building cars in Australia by the end of 2017 and revert to a national sales and distribution company. This means that local manufacturing of the Camry, Camry Hybrid and Aurion vehicles, as well as the production of four-cylinder engines, will cease by the end of 2017.The company emphasised that the decision that it is no longer viable to continue building cars in Australia was not based on any single factor. Market and economic factors contributing to the decision include the impact of an unfavourable Australian dollar that restricts the viability of exporting, high costs of manufacturing and low economies of scale for the vehicle production and local supplier base.