

# Safety and Ergonomics in Toyota Company

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**Abstract** — For Safety and the ergonomics are the key base for the better workplace and these factors are always insured by the large organizations for the employee retention and efficiency of performance. For the purpose to see the ergonomics and the safety of employees in Toyota, the strategies are being made by the company to enhance the capability and satisfaction of employees. Through accident free design of product, process, risk management and the machine management and the ergonomics' programs becomes the Toyota largest organization of world.

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## Introduction

The company named as Toyota is founded in 1933 in Japan by the Kiichiro and this is the largest and one of the best automobile companies of the world. In addition, the process of the company was being developed in the United States in the year of 1929. Toyota Company started the researching gasoline engine over there for better production and expansion. Toyota is deriving their organization towards the customer satisfaction and optimal balance within the comfort of customers, drivability, reliability, safety and the environment. More than 26 countries Toyota is working and manufacturing with diversified workforces. Toyota is providing to their customers industrial material, insurance, lifestyle, products, estate development, material and the automotive accessories. Toyota is working for the safety and the betterment of their employee's health and serving through their principles in their lives. They are providing their employees a good environment and safety at workplace. (Adler, Goldoftas, & Levine, 1997)

### Safety at workplace:

Safety of employees is very important at workplace, and this is the responsibility of the employee to not to do work in the environment which is not healthy and safe because the only employee is the person who knows about the workplace where he is working. These are the rights of an employee to work into the environment where they have right to know information, participation and the refusal. The employee must use the equipments, clothing, and

material, which is being provided by the organization for their safety. All the procedures must be followed by the employees of organizations that are being made for the safety and health. All the information and the instructions that are provided to the employees must be considered by the employees that are for safety and health. The supervision of the workplace for the safety of the employees must be co-operated by the employees for the assurance of the principles of safety of employees. This is necessary for the employees to report the report all the accidents that are work related, diseases, hazardous that are happens at the workplace and the reason of injury to the supervisor. (Dixon, Theberge, & Cole, 2009)

lack for saving the life of a person. Life threatening errors can be reduced through the lean six-sigma. (Koning, Verver, & Heuve, 2006)

### Ergonomics at work place

The ergonomics at the workplace means that the company is fitting the job for worker and for this purposes many factors are involved in this process as the tools, worker, environment and task. This approach focuses on the task tool and the work place and environment of the worker or employee. If there are many mistakes or ineffective happens than there may be the cause of cumulative trauma disorder, musculoskeletal disorder and the repetitive strain injuries. To avoid these types of injuries the management of the organizations makes tools like those that they avoided to give the same type of work to one employee and believe

in the rotation of job. They made physical adjustments at the workplace of organizations, give alternative tasks to their employees, and redesign the work and designation of worker through giving them the new training and tasks. (Köper, Möller, & Zwetsloot, 2009)

### **Example of health care problem**

The example of the situation before lean and six-sigma introduction is the report that was being released by the institute of medicines. By the medical mistakes of healthcare professionals every year, almost 100,000 people die in America. In addition, this is the leading cause in the America for the high rate of deaths. Moreover, the mistake mostly happens into the diseases of heart, stroke, cancer, and lung. In the America most of the deaths were the cause of the poor management of the organizations and the error or flaws into the activities and operations of hospital's and this was a big issue for the hospitals to minimize these errors before the introduction of lean and six-sigma approach into the healthcare system. There were a great need to improve the efficiency of procedural errors, improvement in healthcare medical centers, and the hospitals. The external forces are pressuring the hospitals to reduce their cost, which were so high before the technology of lean and six-sigma. So this was the difficult question for the hospitals that what to adopt by which they can reduce their cost and enhance the margin. So the situation before the lean and six-sigma of the hospitals were bad due to lack of their effective and efficient process that only for customers not any extra activities. (Niemeijer, Trip, Jong, . Wendt, & .M.M., 2012)

### **Safety in Toyota: tools and methods:**

Toyota is working to provide the work safety to their employees at the workplace with the aim to retain their employees because they need the employee loyalty as any largest organization. For the employee satisfaction, they have arranged the risk management and prevention programs in their organization. This is the philosophy of Toyota to continue improvement in their operations, accept

new challenges for the product, and service development. The other factor of the company is to give respect to their employees and do work as a team into the organization. The motive of the company is to do safe, reliable and skilled work for their customers. In the organization, this is the responsibility of top-level management to provide safety to their employees and of an individual also. Toyota wants to become the leader in the work safety in the North America and for this purpose; they are using different techniques and approaches. They are fulfilling these requirements through the safety of equipment, safety management system, and the safety culture.

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### **Techniques for safety**

Through the risk management approach, Toyota is on the way to assess the risk if any on the workplace and they are solving the problems if they found any. If any hazard identify at work place than the risk management provide

the employees preventing strategies for the company to avoid any type of injury and accident. The company is making accident free product and process designs for their employees. They are recording the operations of employees and recording the observation at the workplace. They are recording the operations of an individual and analyzing that where they are making mistakes during the work hours and monitoring their safety as well. The safety management system is based on the product, process, job standard, monitor, actual work, and all these factors are being made accident free. Under the design of the vehicle, they inform the employee about the roles and responsibilities of employees regarding that design and the operating procedures at the workplace. Design process of the company is being given to the employees through training curriculum and matrix. (Verbeek, Pulliainen, & Kankaanpää, 2009)

In addition, this matrix is based on the evaluation of previous or historical concerns for further implementation. The confirmation of process is made by the pilot team, which analyze the gestures and postures and other aspects of the employee that may be faced by them during the work. If the engineers are found any of the problem regarding the process design than they countermeasure the system to improve and solve the problem. For the purpose of safety, they have made one more tool to be established as the machine risk management in which they make sure, if any hazard identifies into the equipment. If any risk found through risk assessment than take control measures to reduce or eliminate the risk. The management of job hazard analysis are being working in Toyota and working as the hazard assessment tool, identifies hazards, and the board engagement. A cycle tool they adopt into the organization and that are the thoroughly identify the work through categorization, find the designation of plan empowerment, improve guidelines, education and training to employees, and the check and balance.

Ergonomics in Toyota: tools, principles

Ergonomics is being derived from the concept of health and productivity and this is being developed unto the Toyota Company for their employees. In this way Toyota have made the workplace easy for the employees through the easy to use machines and the equipment and where no danger for any type of injury. Toyota believe that without the proper design process of the ergonomic in the company there may be repetitive injuries that cause of long term disease and that should be eliminate. The motive of Toyota regarding the ergonomics at workplace is to provide the accident free environment, define problem, identify risk, make preventions, and implements the strategy. There is the involvement of the employees into the processes of the company and they appreciate the information and suggestion of their employees for the betterment. (Personick & Shirley, 1989)

The involvement of employees is also better to identify the problems that happen at workplace during operations of business. Through the involvement of employees, there are better strategies by the company to make high quality products, productivity and the injuries of employees. By the ergonomic tools and technique, there is reduction into the injuries of the employees. The ergonomics problems solved through the evaluation of the hand force of the employees during work and the weights that they are carrying in all the day. Through these measures, they make the workplace free of any injury and provide the good and safe environment to the employees.

Tools that the company is being used for the elimination of ergonomics risk ratcheting mechanism, long, short, thick and thin handles, spring-loaded returns, electric knife, and the electric stapler. They are giving training and instructions to avoid the awkward positions during work like gone bent for long, use of headphones, step stool, support equipment overhead, and the lifting devices. Ant fatigue mistakes, anti-vibration material, external support, anti-vibration gloves and the anti-vibration handles are being used in Toyota to insure the safety of employees at

workplace. The facilities that are making sure the workplace ergonomics are the lighting, no noise and exercises for the body parts. The ergonomics programs that are implemented by the organization are management leadership, hazard reporting and information, employee participation, analysis of job hazard and controlling programs, training, MSD management, and the evaluation of programs.

### **5. Successful or not:**

The tools that Toyota has applied into their workplace and organization are very successful regarding the safety and employee participation. These tools are being implemented by the organization for the efficiency of the employees work at their place. They are not making their employee to bind at one place and they are rotating them for different jobs. There employees are satisfied through their strategies and the tools or techniques that are implemented by Toyota. Because of their employee satisfaction, Toyota is number one automobile company where they are

considering the safety and involvement of their employees even in the vehicle design.

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