

THE KEY WAYS IN WHICH TOYOTA UTILIZES ITS PEOPLEWARE

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Abstract

The Toyota Production System (TPS) which was developed at Toyota under the initiative of Ohno, Taiichi has been widely studied and implemented to different degrees throughout the world. While the technical system (the actual nuts & bolts of how it works) has been thoroughly researched and continues to be, there seems to be very little research or understanding of how Toyota utilizes its people or peopleware to take full advantage of what TPS has to offer.

In this paper we are assuming that TPS has two main parts (with concern to only the manufacturing at the end company or assembler i.e. Toyota), the first which we will call the technical system (Nuts & Bolts) and the second which we will refer to as the peopleware. We will be focusing on the peopleware aspect with concern to the Toyota USA (Toyota Motors Manufacturing/TMM) factory in Kentucky, which produces the Camry, based on comparisons with that of Toyotas factories in Japan.

Helpful Definitions

Community-of-fate: A principle or belief by team members as defined by the following, [Team members think that if they give 100% this will lead to lower cost & higher quality, which leads to greater market share, & quality image which leads to higher revenue & profits which leads back to job security.] This means that the entire company is connected and dependent on each other.

Toyota-Think: The vision of what the ideal company and system is that all employees need.

1. Importance of Production Workers

In most manufacturing plants the people directly involved in production make up the majority of employees. This holds true for Toyota Motors Manufacturing (TMM) at its factory in the state of Kentucky, USA. As reported by Besser, Terry* in her book Team Toyota those workers directly involved in production at TMM Kentucky make up about 80% of the factory workers.

2. TPS Transfer Problems

According to our observations the area of peopleware is what is neglected the most when companies try to transfer the TPS to their factories. The problem lays in the fact that when the majority of companies begin to implement TPS they only implement the technical system (Nuts & Bolts framework) without much regard to the peopleware. As Toyota has shown through its continuously high levels of production efficiencies, profitability, market share and

customer/employee satisfaction it is imperative to have both the system and peopleware in operations. What this means is that without the people the system cannot be fully utilized and without the system the people cannot be fully utilized. The system is the people and the people are the system, a kind of symbiotic relationship.

3. Importance of Work Teams

Toyotas organizational structure in a broad sense is broken down into three categories, the Corporate Team, Company Team and Work Team. Within these three the work team is the largest asset and the point at which all other areas of Toyota (Corp. Team & Co. Team) are geared towards in a supportive role. Therefore the following questions will be addressed:

- I. What is important (what do they do) to the creation and sustaining of the work teams?
- II. What is important with regards to the Corporate Team and Company Team in a broader sense to sustain and perpetuate the importance of the Work Team in relationship to Toyota?
- III. How does the peopleware system work in totality to help Toyota in its overall goal of achieving the ideal system of making the right thing at the right time, matched to customer request while reducing lead time to zero?

4. Areas of importance to the creation and sustaining of Work Teams

The following factors are the most important in creating and sustaining work teams that achieve Toyota-think and commitment to the community-of-fate philosophy.

4.1 Primary Relationships

Toyota utilizes the power and influence of work team primary relationships to motivate, control and educate the workers to think and act in ways that are beneficial to Toyota. The values of the team are created to match the values of the company through the use of these relationships. In what ways does Toyota help in the creation of these relationships?

(1) Direct help from TMM

As the average size of the work team is quite small good relationships are easier to attain. TMM helps this process along by making money available, called PT (Personal Touch), to support team functions. Examples of these functions include Christmas parties, bowling nights, baseball games, family picnics et cetera. TMM policies are also highly critical of breaking up work teams. As the breaking up of work teams is discouraged this allows people to work together for a long period of time and for camaraderie to take place.

(2) Role of Team Leader

TMM utilizes the team leader as a person who can communicate Toyota-think on a daily basis and in a one-to-one personal way to the team members. The team leader ideally is a person that the team members look up to as a role model who exemplifies TPS or Toyota-think. The role of team leader is to be filled by someone from the work teams,

and needs to be viewed as a person who will help and do whatever is necessary to assist the team and get the job done. Team leaders are not given the power to evaluate team members and their pay is only 5% higher than that of team members. This tells the team members that the team leader is not management. By not being part of management the team leader is more apart of the team, therefore furthering the primary relationship at the same time furthering TMMs goals.

(3) Salary and Benefit System

The salary and benefit system is designed so that nobody feels superior to any other worker because of a salary difference. Team members all receive equal pay with the only difference being newly hired people who start out at a lower pay scale that is raised every six months over an 18 month period until the maximum wage has been reached. Team members who are a part of a skilled trade have a different pay scale from that of regular team members and reach their pay peak after three years. Finally as was said earlier team leaders have a pay difference of only 5% compared to that of team members. Equality of pay brings with it the message of general equality so there can be no distinctions made between pay differentials therefore promoting camaraderie.

4.2 Education, Experience/Skills

When creating these work teams TMM is looking for workers who have not developed any bad habits, attitudes or ways of thinking that TMM will have to change before crafting the individual into the kind of worker TMM wants. Education and experience/skills are one of but not the main criteria for hiring workers therefore, employees with no experience and low to medium education levels allows TMM to create and educate the workers to facilitate the team concept. Also as most workers have no manufacturing experience they are not likely to have any union associations.

4.3 Orientation & Training

(1) Work Team Member Initial Orientation & Training

The orientation and training that takes place immediately after being hired is where all initial ideas and necessary skills about TPS, Toyota-think, team concept and community-of-fate is communicated.

(2) Work Team Leader Initial Orientation & Training

In addition to the education and training mentioned above the team leaders must go through additional classes on job instruction training, group dynamics and problem solving techniques. These classes are all more detailed than those offered to normal team members. The most impressive thing that team leaders must do, and what shows Toyotas commitment to workers, is that all team leaders must spend several weeks at TMMs sister plant in Japan. This is so all team leaders will have a concrete understanding of how the system works from hands-on experience in Japan.

(3) To become a Team Leader Orientation & Training

As was said earlier in this paper, the team leaders are chosen from within the team members. To become a team leader one must take the classes described above and upon being selected goes to Japan for additional training. As team members take these classes the work team concept, and philosophy are reinforced again after the initial orientation.

4.4 Feelings of Equality & Cooperation among Team Members

(1) Job Rotation & Cross training

For the purpose of promoting feeling of equality and cooperation while cutting down on work monotony and injury, job rotation and cross training are fully utilized at TMM. Proper job rotation and cross training benefits:

- ◆ Allows some variety of work.
- ◆ Team members develop a variety of skills and learn several jobs.
- ◆ Job rotation can cut down of job-related injuries. (i.e. sickness of repetitive motion)
- ◆ Decrease the potential of injuries caused by careless action, which increase in direct proportion to the numbing monotony of the job.
- ◆ Increases the feeling of camaraderie with other team members.
- ◆ Team members learn about the importance of mutual aid and the spirit of cooperation.
- ◆ Increases the flexibility of the operation.

(2) Salary & Benefit system

This is very useful in promoting feelings of equality among team members and has been addressed in section 4.1 Primary Relationships, sub-heading (3) Salary and Benefit System.

4.5 Responsibility & Freedom (Kaizen)

What responsibility and freedom mean is that team member are encouraged to make changes to the manufacturing process. These changes are to be done within a work environment of standardized work. At TMM workers are to be actively engaged in Kaizen activities. They are to work from a set standard but to always be thinking of a way to improve upon that standard. Workers are to plan the action, do the action, check the action and then standardize it. .

(1) Team members use their minds – humanity

As the work of any factory is usually monotonous, kaizen activities allow for some intellectual challenge. It is the responsibility of team members to design ways to improve their jobs in terms of quality of product, cost reduction, and safety enhancements et cetera. Change becomes the norm and as things are always changing on the production line the monotony of work is reduced. This has a very positive effect on team member's spirits while at the same time promoting team members to be proactive.

(2) Non-Monetary Award System

At TMM kaizen improvements are rewarded with non-monetary awards. These awards mainly come in the form of gift certificates for the local department store. The reason that gift certificates are given instead of cash is because cash would probably be saved or wasted away on food and drink. The gift certificates bring in the entire family on it. The family goes to the department store and buys something together. In this way TMM harness the power of the family to encourage kaizen activities.

5. Areas of importance with regard to the Corporate and Company Teams

The following areas are what are important with regard to the Corporate and Company teams in a broad sense to sustain and perpetuate the importance of work teams in relationship to Toyota.

5.1 Job Security & A Lean Work Force

(1) Long-term Agreement

Job security is one of the most if not the most important area for workers with concern to TMM. At TMM job security is an unwritten agreement between workers and TMM. This agreement is based only on trust, trust by the workers that TMM will not lay people off in bad times, this is the same to that of Toyota in Japan.

(2) History of Job Security

In Team Toyota by Besser, Terry* an employee at TMM Kentucky was quoted as saying, "I did my research on Toyota. They haven't laid off since 1959 and that's because they only hired just enough people, trained people, that they could take care of in the lean years. Toyota in the United States is run the same way." Toyotas history is very important and lends large credibility to worker trust in the company.

(3) Lean Workforce

The policy at Toyota is to hire as few people as they can to get the work done, work a little harder in economic good times and then they don't have to worry about carrying around a lot of extra people in slow economic periods. This makes the employees feel important to the company. With a lean work force if an employee does not come into work one day the team leader must fill that job and then the group leader must look after his job. Everybody has trouble if you don't come into work. It makes people feel needed.

(4) Personal Effort

Team members think that if they give 100% this will lead to lower cost & higher quality, which leads to greater market share, & quality image which leads to higher revenue & profits which leads back to job security. The community-of-fate. Of course this type of thinking is very self-serving, it gives the workers some degree of control over their jobs as they must give 100% effort.

5.2 History of Company/Production System & Open Communication

(1) History of Production System

As TPS has had very good success in the past team members are encouraged to learn about it. The technology and process is so widely praised and documented that team members trust it and that trust which is created in part by the production system is a building block of team members feelings of job security.

(2) History of financial and employee relations success

As Toyota has a long history of financial success and an equally long history of treating its employees in a humane fashion employees are encouraged by this to give their trust to Toyota.

(3) History of Job Security

A very important factor, which was already, addressed in section 5.1 Job Security & A Lean Work Force.

(4) Open Communication

Open communication is very vital to the Corporate and Company teams in their relationship with the Work Teams. There are three basic ways of communication. Top (Management) to Bottom (Workers), Bottom (Workers) to Top (Management) and Employee trust of the communication exchange. This type of information exchange is crucial to the health of the company and the work teams.

5.3 Management Flexibility to Workers Needs

As the main asset for Toyota and TMM is its workers management wants the workers to think they are not too rigid and let them know they are there to help them. This is accomplished by:

(1) Significance of the Individual

TMM tries to help its workers when one has a problem instead of simply firing that person. For example if a person has a drinking problem that effects his job, instead of firing him they will help him join an association to stop drinking. TMM is not only an employer but also an organization that keeps the well being of the workers in mind.

(2) Accommodating Policy

TMM is very interested in keeping its workers happy and satisfied with their work place. TMM diligently looks for ways to help its individual workers with their needs. Examples could be if work is causing a large disturbance in a workers family life; TMM will look for a mutually beneficial way that the problem can be solved.

(3) Human Resource Personnel

As has been said before TMM sees its employees as very important if not the most important asset of the company. TMM has greatly empowered its human resource personnel to acts as a check and balance towards managerial over-site or favoritism of certain workers. This policy of including the human resource personnel is very positive and creates an impression among workers that management understands that it can make mistakes and has taken measures to have some sort of over-site.

6. Peopleware and achievement of the ideal system

The goal of Toyota is the achievement of the ideal system. The factors listed and discussed above make up the building blocks, in addition to the technical aspect, to achieving this system. The Toyota philosophy, with concern to peopleware can be stated as follows: “1) Competition, 2) Collaboration and 3) Co-creation”. This is to say, Toyota encourages its employees to compete, collaborate and finally co-create amongst each other. This is the base on which

Toyota builds with the purpose of continually improving and creating new and more efficient ways of running the business. From this philosophy the team building concept (Work Teams, Company Team and Corporate Team) has taken form.

(1) Peopleware and the ideal system

How does all of the factors that we have talked about contribute to the ideal system?

In a broad sense TPS, with respect to peopleware, can be broken down into three simple areas focused around Kaizen which leads to the ideal system. The three areas are as follows:



Fig. 1 Peopleware Flow

- ◆ Kaizen Mechanism is a built-in system where kaizen opportunities are made visible and action can be taken on those opportunities.
- ◆ Human Ability Development is the continuous training and development of employees.
- ◆ Proactive Employees means workers who are fully engaged in their work in a flexible, lean, responsive and proactive manner.

The above three items flow into or make possible kaizen, which is the engine that powers the continual push for the ideal system. The ingredients that make up these three areas are the many factors, which we listed above. In this way Toyota is constantly actualizing a system which approaches the ideal.

7. Conclusion

Through the implementation and use of all the factors that we have layed-out Toyota effectively manages its workers to believe in and trust Toyota-think and the “Community-of-Fate” philosophy. By realizing this Toyota has achieved greater worker commitment to the ideal system of no waste, zero lead time, the lowest cost, highest of quality, and the continuous improvements of TPS.

References

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