

From Zero to Teamwork - A Manufacturing Journey

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Introduction

It has become obvious in today's manufacturing environment that the old school in which management makes all of the decisions and the hourly work force simply carries them out is a thing of the past. Customers are demanding top quality products at a low price, with at least a 95 percent service level and ever-shortening lead times. In today's competitive global marketplace, any company that can't meet these requirements will find their customers taking their business to someone that can.

One of the most powerful weapons that a company can use to succeed in this competitive marketplace is the talents and ideas of its own people. The Japanese manufacturing success story was built on many concepts, one of the most important of which was continuous improvement using teams of employees to solve problems. Many successful American companies have demonstrated that teams work just as well here as they do in Japan. While many more companies want to start teams, most face a huge hurdle: where and how to begin. This is the story of how one manufacturing company developed project teams. It includes ideas and techniques we tried that worked, others that didn't, and recommendations for those who want to get on the path of developing project teams.

The Setting

We begin when the author became Operations Manager of a manufacturing department at the Auburn (Alabama) Division of Vermont American. About this time, Vermont American had decided to embrace the principles of World Class Manufacturing and had recommended a number of books on the topic. In addition, the Industrial Engineering department of Auburn University was doing a great deal of work in such areas as statistical process control, total quality management, and setup time reduction. The Auburn Division had already formed a relationship with the Auburn University Industrial Engineering department where students worked on projects at the plant, thus helping the division improve its techniques while the students gained "real-world" experience. As you will see, this relationship would turn out to be very important as we developed team projects.

After reading several of the books, we decided to begin our journey toward project teams by naming a Steering Committee. The Steering Committee consisted of the General Manager, Controller, Operations Manager, Plant Engineer, Training Manager and two other key managers. We initially decided against including any members from the hourly work force until we had some idea of what we were going to do. (We added hourly workers after the first year.) Although reading the books was helpful, we knew it wasn't enough. Fortunately, so did Vermont American; they therefore established a training

program based on The Team Handbook¹. The team training emphasized the following areas:

- Team interaction skills
- Guidelines for productive meetings
- How to select the first project
- How to select the first team
- Project identification techniques such as Brainstorming
- Data gathering and analysis techniques such as Fishbone Diagrams and Pareto Charts
- Selecting the first project and project team

We decided to have the Steering Committee select the first project and team. There were several reasons behind this decision:

To insure that the project had the support of top management—since the Steering Committee consisted of top management, we knew we would get the proper resources allocated if the Steering Committee selected the project.

To improve the chances of a successful project—our training taught us that the most important thing about the first project was for it to be successful. This would generate momentum upon which other projects could build. There will sometimes be projects or teams that don't work out, but if the first few projects have been successful, critics will be less likely to denigrate the total effort. On the other hand, if the first team project falters, many will write off project teams as a failed idea.

To design a project with a short time span—since we needed to complete the first project successfully in order to build momentum for future team projects, we needed to complete it as rapidly as possible in order to have a success to point to.

We chose the Supervisor as Team Leader—one of the major problems we had read about was that of the line supervisor feeling left out and powerless when teams got started. In order to prevent this, we made the supervisor the first team leader.

We scheduled time for the entire team to go through the same team-training program the Steering Committee went through. This would allow the team to get off on a good start.

The First Project

The first project we chose was to reduce the setup time on one of our pieces of equipment by 50 percent. The supervisor as well as the setup people in this area had complained about how the lengthy setups made their jobs more difficult, so they were very enthusiastic about participating on the team. We also had a group of students from the Auburn University Industrial Engineering department who were looking for a setup time reduction project that they could participate in. We welcomed them to work with our

project team. We gave the team a time limit of four months. All team meetings and team activities were done on company time.

The students introduced several new techniques to us, including video taping setups for later review and analysis. They also introduced some of the concepts behind SMED (Single Minute Exchange of Dies). The team video taped a setup and reviewed it with a stopwatch. What we discovered astounded us. We found that the vast majority of the setup time was spent on non-value-added activities such as looking for tools and gears (which were often located at a considerable distance from their machines). In addition, because of the layout of the department, the setup men had to frequently interrupt their setup activities to make sure their other machines were still producing.

The Team Project Presentation

After developing solutions, the team prepared a presentation for the Steering Committee. They recommended that each setup person receive a complete set of tools, that all of the equipment be rearranged so that they could monitor their other machines while they were setting up, and that a pegboard be installed on which they could hang their gears and fixtures in an orderly fashion.

After the presentation, the team waited for the Steering Committee to make a decision. Privately, many of them felt their findings would be rejected because the findings cost money and they didn't believe management would spend money based on the recommendation of hourly workers.

If we had rejected their recommendations, the team approach probably would have died a rapid death. However, we approved them without modification, including all expenditures. The announcement was made at a plant meeting, where the efforts of the team were praised in front of the entire work force. The solutions were then implemented in about 4 - 5 weeks, so everyone could see the benefits of the project.

Now it was time to start another team. The Steering Committee met and decided to start a setup reduction team in a different area. This time we took a member of the first successful team and made him team leader; the supervisor became team advisor. Again we drew on Auburn University for another group of Industrial Engineering students to participate in the project. The new team used techniques similar to those employed by first team and the results were the same—another success. After we announced (at a plant meeting) that the team had done a great job and we were approving their recommendations, most of the employees began to believe that management was serious about supporting this, and we were firmly on our way.

Problems

As with any new venture, not everything went smoothly. Some of the problems were:

- Too many teams—people bought into the concept so well that one day we realized we had so many people in team meetings and activities that we didn't have enough people left to manufacture our products. At this point we adopted a budget with a certain number of hours per week that could be devoted to team activities. This allowed us to continue these activities without disrupting our business.
- Some people wanted to assign every problem to a team—teams are great for assimilating different ideas, but speed is not a great team attribute. You also have to be careful that problems that are best handled by one or two individuals don't wait for a team.
- Some people didn't want to participate—as more teams succeeded, more people who didn't want to participate initially changed their minds and joined in. However, you still had some people who don't want to participate in the process. We decided not to force anyone; we kept all team activities voluntary. With only 6 - 12 people on a team, including even one member who doesn't want to participate could drag the whole team down.
- Team members sometimes came to a standstill while fighting among themselves over solutions—when this happened the team advisor would meet with the team to explain that this was normal. They were simply going through one of the phases (storming) of team development. The team was then given a team-training refresher course and monitored to make sure the problems were worked through.

Results

Was all of this effort worth it? Judging from the successful team projects, not to mention our increased profitability, the answer was most definitely YES!! Some examples of team successes:

- Reducing setup time from 1.5 hours to twenty minutes.
- Reduce costs of parts washing (Annual savings of 60 percent).
- Change plating methods (Annual savings of 50 percent).

Below are the ten most important ideas that I'd like to pass on to anyone getting ready to start teams. Although you will naturally hit some rough spots, the results of well-implemented teams and team projects will be well worth it.

1. If you don't have the expertise in-house, read books and get help from outside. APICS, local universities and consultants can all serve as excellent resources.
2. Team interaction skills are learned--conduct team training before you start.
3. Include key managers and supervisors in initial stages.
4. Pick project and project team carefully--a successful team project is the overriding objective.
5. Unless you feel it will threaten or destroy your business, approve and implement team recommendations quickly without modification in the initial stages.
6. Praise the results publicly.
7. Use a few team members from successful teams on new teams.
8. Don't overdo it--set a budget for time as well as money.
9. Don't force people to get involved--as success grows, more will get involved willingly.
10. When things break down--review your team training and remember: it's normal!!

References

1. Peter R. Scholtes and other contributors, "The Team Handbook - How to Use Teams to Improve Quality", Joiner Associates, Inc., Madison, Wis.

About the Author

Mark K. Williams, CFPIM, CPSM, CSCP, is President of the Williams Supply Chain Group, Inc., a consulting firm specializing in supply chain management and training.

Mark has over 20 years of industry experience in various roles including Director of Demand Planning, Senior Manager of Materials, Plant Manufacturing Manager, Distribution Center Manager, Corporate Internal Auditor and Production Control Manager.

He is an APICS Certified Fellow in Production and Inventory Management (CFPIM) and a Certified Supply Chain Professional (CSCP). He has also earned the Certified Professional in Supply Management from the Institute of Supply Management (ISM). He has many years of experience teaching APICS certification review courses and developing customized inventory and supply chain management courses for corporate clients. He has spoken at numerous APICS International Conferences in the United States, three European Supply Chain conferences, two Australian Logistics & Supply Chain Conferences, a South African Supply Chain Conference, as well as numerous local and regional supply chain meetings. In addition delivering seminars in 47 of the 50 United States, Mark has delivered seminars for clients in South Korea, Singapore, Malaysia, Indonesia, Bulgaria, France and Australia.

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