

Implementing Integrated Product Development: A Case Study of Bosma Machine and Tool Corporation

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SYNOPSIS

This case studies the implementation of integrated product development (IPD) in Bosma Machine Tool Company (Bosma). The authors concentrate their analysis to the following six areas: changes to the work environment, team organization, training used, new team's group dynamics, rewards and incentives, and measures used to assess the success of the team. The case also offers useful inside information and recommendations on the management of newly formed teams.

LEARNING OBJECTIVES

Today's challenges required interdependent skills and approaches. This case will allow the students to further comprehend the following issues:

- the importance of teams
- the management of teams
- cultural barriers
- cultural changes due to teams.

DISCUSSION QUESTIONS AND POSSIBLE ANSWERS

1. The Bosma Machine and Tool Corporation experienced a number of barriers during the transition to self-directed work teams from its previous organization. What were some of those barriers?
 - a. The case identifies the following barriers:
 - accepting the responsibility of making decisions without management approval
 - team members were not certain of their empowerment,
 - lack of communication within the team
 - fear of retaliation for voicing opinions
 - initial tendency of some team members to dominate early meetings
 - changing from a culture of following to one of leading.
 - releasing traditional management controls

Reducing
INITIAL
STRESS! *

- accepting self-management of the team
 - no clear redefinition of the foreman's role.
2. When a new team is put together to run a project, anxiety among members can run very high. As a project manager said, "Moving a team member's desk from one side of the room to the other can sometimes be just about as traumatic as moving someone from Chicago to Manila." What can the project manager do in order to reduce the initial stress among team members?
- a. H. Kerzner, in *Project Management: A Systems Approach to Planning, Scheduling, and Controlling*, Chapter 5, Management Functions, suggests discussing the following with each team member:
- what are the objectives of the project
 - who will be involved and why
 - the importance of the project to the overall organization or work unit
 - why the team member was selected and assigned to the project
 - what rewards might be forthcoming if the project is successfully completed
 - what problems and constraints are likely to be encountered
 - the rules of the road that will be followed in managing the project
 - what suggestion the team member has for achieving success
 - what challenge the project will present to individual members and the entire team
 - why the team concept is so important to project management success and how it should work.
- b. In addition to understanding the importance of working as a team to achieve the project's objectives, team members must understand "what's in it for me."
3. What are the characteristics of an effective team? Do you think these characteristics are present in less effective groups?
- a. O. Kharbanda and J. Pinto in *Successful Project Managers: Leading Your Team to Success*, Chapter 12, Team Building, state that the qualities that effective teams normally have are missing in less effective groups. The factors that most of the research lists as characteristics of successful teams include:
- Clear sense of mission—The sense of mission must be collectively accepted by all team members and clearly understood.
 - Understanding the team's interdependencies—Team members have to know their contribution to the project and how their work fits into the overall endeavor.
 - Cohesiveness—How much attraction there is among team members and their tasks.
 - Trust—It is manifested in the belief among team members that they are able to disagree without concern about retaliation.
 - Enthusiasm—The belief among team members if the goal is achievable and the positive energy associated.
- b. Other characteristics of successful teams include: senior management support, interdisciplinary and diverse membership, integration into the organizational design, education and training, effective leadership, effective facilitation, clear team mission, objectives and goals, strong team chartering process, clear team roles and responsibilities, and a balance of authority, responsibility, and accountability (from Bursic, Karen M.,

Discuss

Discuss
*

Self-Managed Production (Manufacturing) Teams, in Cleland, David I., editor, *Field Guide to Project Management*.)

4. There are numerous examples in the literature of companies using self-directed work teams. Review the literature to find another example of the use of these kinds of teams. Discuss the organization of the teams and the benefits gained from their use.

DISCUSS *

a. A good reference that discusses a number of examples of the use of these teams in industry is *Industry Week* magazine's annual profile of the winners of its "best plants" awards. In one survey, *Industry Week* reported that all twenty-five winners and finalists in 1995 relied on empowerment practices and that 88 percent of those plants have launched self-directed work teams (production teams) to some extent (Sheridan, John H., *Lessons From the Best, Industry Week*, February 19, 1996, pp. 13-20.)

5. Some opponents of the team approach might argue that the culture of the United States is too individualistic to support this kind of organizational design and that Americans are not predisposed to work as part of a team. Defend or refute this position.

DISCUSS →

a. A study conducted by a cultural anthropologist and marketing researcher in 1993 and 1994, and sponsored by the American Society for Quality Control, Disney, General Motors, Kellogg's, and Kodak, revealed three important findings that play a role in why teams fail. These include employees' need to know what's in it for them, people's previous unpleasant experiences with teams, and the individualistic nature of the American culture (Bemowski, Karen, *What Makes American Teams Tick? Quality Progress*, vol. 28, no. 1, January, 1995, pp. 39-43.) One of the major difficulties with teams in the United States is that the American culture goes against certain attributes called for in teams. In particular, many Americans have a strong need to have individual success at something. "Sacrificing" for the good of the team is not something Americans are predisposed to do. They also don't like to be "forced" to join a team. This resistance must be overcome if a team is to be successful. One of the ways to deal with this issue is to ensure that individuals as well as the team are recognized for contributions. This can be done by allowing each team member to play a particular role and make some type of contribution to problems that are solved and decisions that are made (Bursic, Karen M., *Self-Managed Production (Manufacturing) Teams*, in Cleland, David I., editor, *Field Guide to Project Management*).

ADDITIONAL DISCUSSION POINTS:

17 Recommendations to be Disassembled →

The case presents seventeen recommendations for implementing an integrated product team. The instructor might divide the class into small groups to discuss and present the consequences of not following these recommendations.

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In 1986, the President's Blue-Ribbon Commission on Defense Management noted that weapon systems take too long to develop, cost too much to produce, and often do not perform as promised or expected (1). At the same time, private industry was attributing its success in the competitive global market to its use of new initiatives such as integrated product development (IPD) (1). The United States Air Force defines IPD as:

A philosophy that systematically employs a teaming of functional disciplines to integrate and concurrently apply all necessary processes to produce an effective and efficient product that satisfies customers' needs (2).

IPD DEFINED →

This research focuses on one company's implementation of IPD—Bosma Machine and Tool Corporation (Bosma). The research investigated six areas:

- changes to the work environment resulting from implementation
- team organization
- training used
- group dynamics of the new team
- rewards, incentives, and other sources of motivation used
- measures used to assess the success of the team.

This study is not intended to provide a definitive implementation guide, but rather to provide a series of IPD lessons learned from private industry.

According to Dr. W. Edwards Deming, a pioneer in the field of quality, one of the obstacles to implementation of a quality program such as IPD is the "search for examples" that companies undertake to find a procedure they can follow instead of planning their own route (3). Lessons learned from the case study may be used to educate organizations starting or continuing their transition to IPD. It is essential that case studies of companies that have implemented IPD concepts be included as examples of its application. Case studies increase the database of applications, and provide a source for an IPD curriculum essential to further the understanding of its principles. The universal understanding of these principles is the key to overcoming the barriers to implementing IPD.

IMPORTANT }

BACKGROUND

The concept is not a new idea. It evolved from previous definitions and practices of systems engineering. The use of IPD in commercial industry has resulted in successful and efficient product development. Bosma was chosen for its experience and publicized success in IPD, as well as for its understanding of the problems of implementing IPD. Bosma is a small machine shop company that generates some \$6 million in annual revenues. Marinus Bōsma, a Dutch immigrant, started the business in 1973 in a barn behind his home. He wanted to fabricate machine bases, frames, weldments, and other specialty products. It was a typical job shop, and Mr. Bosma was the sole manager over twelve employees. The company grew rapidly to about seventy employees today, and is now run by President and Chief Executive Officer Lee Bosma and Vice President of Engineering Ben Bosma, both sons of Marinus. Marinus Bosma now works as a consultant in company research and development.

IPD IN BOSMA

The principles of IPD, with its concept of teaming, represent a general framework that may be tailored to the specific needs of an organization. It may be helpful to draw an analogy to manufacturing a car. All cars have the same basic purpose—to provide transportation. They share several common features, such as wheels, doors, seats, and an engine. Each car manufacturer takes the basic idea of "car" and determines design, performance, features, and color. In the same way, Bosma Corporation used the basic principles of IPD to implement a teaming approach to product development. Within Bosma, the teams are referred to as self-directed work teams (SDWTs). A self-directed work team integrates personnel from all areas involved in manufacturing a product to address problems, work together, and exchange ideas. SDWTs also empower employees to take on more responsibility and make decisions in areas previously reserved for management, such as subcontractor qualification, inventory management, and customer relations. This study focused on Bosma's M-1 tank ammunition door SDWT which manufactures 300-pound steel doors for the Army's M-1 tank. Interviewees were divided into upper management and team members. Upper management consisted of the vice president for engineering, the chief executive officer, the plant manager, and the team leader. Team members included two computer numerical control (CNC) operators, two edge work machine and mill operators, and two coating specialists.

WORK ENVIRONMENT

The M-1 tank ammunition door project was Bosma's first venture into a long-term production contract. Previously, the company operated mainly as a small-volume job shop. At first, Bosma assigned a program manager to the M-1 tank ammunition door contract. As the project evolved, upper management found that the existing organizational structure had become unproductive. The program manager was soon overwhelmed by the level of detail associated with the project, including government requirements for schedule, cost, and

assembly detail. Foremen were running machines while supervising other employees. A marked morale problem developed, employee turnover and absenteeism increased, and a general air of apathy settled on the employees. Management decided that a change was needed. Upper management learned about SDWTs from a consultant and conducted further research by visiting other companies. Management wanted to concentrate on improving job satisfaction as well as productivity. It concluded that a production contract lent itself to a teaming environment and decided to try SDWTs. The transition to SDWTs was not easy. Team members reported a major barrier to SDWTs was accepting the idea of making decisions without prior management approval. The team members were not certain that they were fully empowered to make decisions which impacted the project, and only through encouragement from management were team members finally convinced that they were empowered. Another major barrier reported by team members was lack of communication within the team. Team members were initially hesitant to voice their opinions for fear of retaliation. Some team members tended to dominate the early team meetings, while others were withdrawn. Team members solved this problem by encouraging individual input in an atmosphere of non-attribution.

A third barrier involved willingness to change the process. Team members were accustomed to following specific procedures from a foreman, and consequently were not motivated to improve the process. SDWTs instilled ownership of the process within the team members, who concentrated on improving, rather than simply repeating, established procedures. Management found the transition no easier than the team. Upper management reported a major barrier to SDWTs was releasing traditional management control over the workers. Under SDWTs, management no longer dictated procedures to workers. Management's lack of detailed knowledge of team member activities was difficult to accept at first. As productivity and processes improved, however, management gained confidence in the abilities of team members to manage themselves.

Another barrier was convincing team members they were truly empowered. Management overcame this barrier by encouraging team members to take responsibility and by supporting team decisions. Both team members and upper management reported the problem of foremen's roles during team initiation. Team members were unsure of who supervised them, the team leader or shop foreman. In addition, shop foremen believed they still controlled team members. To tackle this problem, management defined clearly the roles of both team members and non-members within the new framework.

TEAM ORGANIZATION

* To set up the team, management identified all steps in manufacturing the ammunition doors and identified those workers qualified to accomplish each step. Team members were chosen both for technical expertise and ability to work with others, with an emphasis on the latter. At the first team meeting, management presented the SDWT framework and information on project schedule and cost to the team members. Members were then asked for inputs to management's ideas. The team members decided whether any features of the existing manufacturing process needed improvement. Management and team members then collaborated to establish the team focus and set quality and productivity goals.

Team Members' Views of Team Leader

Team members defined the roles of the team leader as team motivator, troubleshooter, team representative to outside vendors and customers, goal setter, and facilitator. As motivator, the team leader encouraged members to improve their processes continuously and maintained the team focus. As troubleshooter, the leader worked with team members to solve any problems beyond members' control that might degrade team performance. The team leader also represented the team to the customer to address customer requirements and product concerns. As the contact to outside vendors, the team leader ensured timely delivery of materials and parts required by the team. Finally, the team leader established goals for the team and facilitated the team's progress toward those goals.

Management's View of Team Leader

Management described the team leader's roles as communicator, facilitator, problem solver, and motivator. As communicator, the team leader relayed ideas between team members and management. As facilitator, the team leader tackled any obstacles outside the team members' direct control. The team leader was also a problem solver beyond the scope of the project, addressing personnel issues and conducting performance reviews. Finally, as motivator, the team leader encouraged team members to deal directly with vendors and suppliers whenever possible.

Team Members' Views of Themselves

Team members held themselves responsible for all aspects of their jobs, including product quality and machine maintenance. They were responsible for bringing process and product innovations to management's attention. Team members took the initiative to set the schedule, meet goals set by upper management, and increase proficiency by cross-training. Finally, team members were committed to satisfying their customer, defined as the next person receiving their product.

Management's View of Team Members

Management's definition of the role of team members paralleled the members'. These roles included cross-training within sections and communication among members. Management also believed team members should consider all suggestions equally, regardless of the suggester's status. To encourage such open communication, the team should re-emphasize the role of the individual. Both management and team members believed they could be part of more than one team if each member's primary team schedule was not impacted.

Interactions

Though not official team members, consultants, suppliers, and customers were an important part of team activity. Consultants acted as independent evaluators of team progress and as team trainers. Suppliers were made aware of the SDWT and their responsibilities to team members, including supplying detailed information about their products to team members to enhance quality control. Customers were in contact with each team member on a one-to-one basis, and were fully aware of each team member's responsibilities.

The customer quality inspector was considered an informal team member. Team members reported project planning requirements were simplified because of decreased middle management direction and more open communication between team members. Some members reported more planning was required because they were responsible for more aspects of their jobs under SDWTs. Upper management reported more advanced planning was required under SDWTs, since all aspects of the project were considered up-front, rather than incrementally as work progressed. Planning in advance decreased the amount of planning required at later stages. Some management personnel reported less planning was required, because under SDWTs more responsibility was being delegated to team members.

TRAINING AND EDUCATION

Team members received their technical training on the job. Of all their courses, members reported that training in statistical process control (SPC) was most valuable. To expand their proficiency, members were cross-trained whenever possible. To gain insight and encourage innovation, team members toured both customer and vendor plants. Both upper management and team members considered plant trips significant in encouraging innovation. Training evolved from being process-centered to team-centered, focusing on environmental issues such as conflict resolution, positive attitudes, and communication of ideas to the company. Upper management first attended training in total quality management and leadership principles. Management then researched SDWTs in literature and attended seminars on teaming. Finally, management visited other companies to observe examples of SDWTs in the workplace.

GROUP DYNAMICS AND COMMUNICATION

Upper management established several guidelines for team interaction, including how to run a meeting, length of a meeting, and confidentiality within a meeting. Management stressed participation from all, and mandated that all ideas receive equal consideration. All issues, both personal and technical, were to be addressed and resolved before the end of each meeting.

Management stressed the need for open communication within the team. Team members were taught the responsibilities they had to each other, and the importance of continuous flow of information. Status boards were developed to allow any team member to track the ammunition doors and parts. To ensure communication in the early stages of team building, management declared weekly meetings mandatory. Team members were also encouraged to learn about each other's jobs and fill in when needed.

Before SDWTs, there was no open communication between employees and management. The forced use of the chain of command filtered worker inputs to upper management, causing mistakes from misinterpretation and delaying decisions. Many workers complained that concerns and suggestions were not addressed in a timely manner, lost in paperwork, or ignored altogether. The previous autocratic management style also inhibited feedback from workers fearing retaliation.

SDWTs overcame many of these barriers. Although upper management mandated open lines of communication, some team members were unwilling to make decisions for fear of retribution. With the transfer of responsibility to team members, management knew less about the daily activities of team members; however, management believed such detailed knowledge was no longer necessary. Management considered formal suggestion procedures disempowering; workers would not submit suggestions unless they had reasons to believe they would be incorporated. By opening direct lines of communication, management overcame this problem.

Team progress was reported to company personnel in several ways. Team information was publicized in company-level meetings and through a monthly company newsletter. The company's monthly suggestion rewards were also publicized.

MOTIVATION, REWARDS, AND INCENTIVES

When SDWTs were first introduced, there were mixed reactions from team members. Some members were highly motivated about employee empowerment and the opportunity to express themselves, while others were skeptical of the new approach. As implementation progressed and positive results were realized, team members gained more confidence in the new structure, and maintained a consistently high level of motivation. They cited experience as the key to overcoming early skepticism toward SDWTs. The demanding production schedule made each member dependent on another; any deficiencies in a specific area were quickly brought to the attention of all. Most team members felt confident that any deficiencies could be remedied by direct confrontation at the team level, while a few still felt hesitant to approach others personally. Some team members reported that the company-wide profit sharing policy motivated them to meet the delivery schedule with a quality product. Others were motivated by more simple compensation, such as a pat on the back or satisfaction in meeting a goal.

According to upper management, early team attitudes toward SDWTs were mixed. Some members were highly motivated by the novelty of the concept; others resisted due to fear and unfamiliarity with SDWTs. Team members soon overcame their hesitation as the new concept proved itself. Positive feedback from customers and results of the new process placed motivation quite high. Most importantly, upper management's consistent support of team members silenced any skepticism and proved company commitment to SDWTs. Upper management did not intervene in cases of below standard performance of team members, allowing problems to be solved at the team level.

Although no formal rewards were established at the team level, management had several ways of motivating team members. These included a pay scale indexed to proficiency level and cross-training, updates of sales figures in the company newsletter, and a sales thermometer in the shop. The best motivator of all, according to management, were the team members themselves. Team members were self-motivated to do a good job, and demanded much more of themselves than management had.

Team members reported that SDWTs, despite their emphasis on the team rather than the individual, did not diminish promotion opportunities.

Promotions and raises within the company were still tied to individual performance. Additionally, team members felt that there were more opportunities for recognition and advancement within SDWTs, since it is easier to be recognized in a smaller group.

Upper management stated that promotions within SDWTs would only be a concern if all members were paid equally and pay raises were tied to team performance. Rather than being viewed as a threat to personal authority, SDWTs were credited with freeing the team leader to conduct strategic planning and support activities.

Team members were convinced that SDWTs renewed their commitment to quality and continuous improvement. All team members understood that they were responsible for their own work as well as the whole team's product. Members' names were placed on each completed item, and pride of ownership ensured the high quality of the final product.

Upper management believed that SDWTs emphasized quality to team members and resulted in significantly improved products. There were no quality control inspectors on the team; team members were held personally responsible for the quality of their product.

The change to SDWTs resulted in several personnel reassignments. Some skeptical workers quit, stating that the level of responsibility required of them was too great. Others were transferred off the team but remained within the company. New workers were hired for the team as a result of expansion and increased workload. The new hires were excited about empowerment, and displayed positive attitudes about working in a team environment.

MEASUREMENTS

To measure the success of SDWTs, upper management began with the company vision and mission statements. The vision statement was a long-term goal for the company, The mission statement explained how the vision would be achieved. Management then quantified the mission statement by setting long- and short-term goals and specified the measurements used to track each goal. After graphically flowcharting the manufacturing process, management chose several measures to track progress. These measures were later reevaluated to determine their usefulness. Measures determined not useful by team members and management were checked only periodically or discarded altogether.

Team members were responsible for tracking the measurements on a daily basis. Items tracked included number of rejects, productivity, quality, cost, and schedule compliance. Team members' reported success of SDWTs was evident by a decrease in the number of rejects, increased productivity, and improved quality. Schedules were met and exceeded, and costs decreased significantly.

Team members used SPC extensively to track part tolerances at each work station. Management reviewed SPC charts to ensure continuous quality improvement, monitoring deviations from established standards. When management decided the deviations were no longer significant, they were measured only periodically. Other tools used by management included long-term schedule charts and accounting reports. Long-term schedule charts tracked compliance to the delivery schedule and forecasted the likelihood of

meeting future deliveries. Accounting reports were used to show time spent on the job as well as cost and repairs. Productivity measures, such as dollars per person per year, were provided as part of the financial audit.

The team measured customer satisfaction through direct customer feedback, and established an unwritten rule to meet any customer need. Team members considered product acceptability the ultimate measure of customer satisfaction and visited the M-1 tank plant to discuss expectations of their customer regarding the quality of the ammunition doors. Upper management maintained open lines of communication with customer personnel in contact with team members and measured customer satisfaction through quality surveys. The surveys were independently constructed by a consultant to avoid bias.

Since implementation of SDWTs, survey results have been extremely positive; however, such positive feedback, although encouraging, seldom identifies areas needing improvement.

CONCLUSIONS AND RECOMMENDATIONS

Teaming Framework

We have used the results of the case study to compile a generic sequence of steps for implementing an integrated product team:

1. Develop vision and mission statements. Management must establish clear vision and mission statements to give the company a strategic goal.
2. Learn about teaming concept. Management must research literature, attend seminars, and visit other companies to learn specific details of teaming.
3. Conduct feasibility study. Management must assess the practicality of implementing teaming within the organization.
4. Commit fully to teaming. Once the decision is made to implement teams, management must commit fully or teaming will fail.
5. Sell the teaming approach. Management must sell the teaming approach to company members. The company culture must change to accommodate the new approach.
6. Identify pilot product team. Select one product to demonstrate the advantages of teaming to the company and to highlight weaknesses.
7. Chart process to identify team members. The process used to manufacture the product must be flowcharted to identify all personnel involved.
8. Recruit team players. Team players must be chosen based on technical competence and personality, with an emphasis on the latter.
9. Identify team leader and define the roles. A team leader must be chosen from within the organization and the role clearly understood by all team members.
10. Define roles of team members. All team members should be identified to each other and their relationship to the overall process should be defined clearly.
11. Define roles of all other personnel. Roles of all personnel within the company who may have an impact on the team must be clearly defined.
12. Set guidelines for team interaction. Establish and reinforce open communication among team members and management. Eliminate any barriers to communication.

13. Train team members. Team members should be trained in the methods used for successful teaming. This includes technical training, particularly in SPC, and human relations training.

14. Establish motivation, rewards, and incentives program. Identify rewards and incentives, both internal and external, that are to be used to motivate the team.

15. Set team goals and begin project. Goals related to the company vision and mission must be established by all team members prior to project initiation.

16. Cross-train team members. Team members should be cross-trained as soon as team confidence is established.

17. Seek continuous improvement. Management must encourage continuous improvement of the processes and products developed by the team. This includes developing measurements to track progress of improvements.

LESSONS LEARNED

The case study provided several lessons learned on the implementation of integrated teams. These lessons are categorized under management policies and general policies. Management policies describe recommendations specific to management, as reported by upper management in the case study. General policies describe recommendations not specific to any one group, and represent inputs from both management and team members in the study.

Management Policies

1. Management must fully commit to teaming. Anything less than full commitment by management will result in failure of the team.

2. Management can only empower team members by example. Upper management is reluctant to allow team members to be autonomous. Management must accept the fact that those closest to the work know how to accomplish it.

3. The transition of management style is difficult but essential for integrated teams to work. Under teams, management's job is to lead more and manage less. Roles of former supervisors and foremen must be redefined to avoid conflicts.

4. Executives should conduct self and peer evaluations to measure their effectiveness.

5. Flatten the organization. Management layers increase the probability of operator error. Communication through a chain of command filters out valuable information from both ends of the chain.

General Policies

1. Communication between all levels is a top priority. Direct communication between management, team members, and customers encourages innovation. Management and the team must consider all suggestions from team members.

2. Train all company members in teaming and human relations. Jealousy of non-team members can be avoided by management defining roles in the teaming plan.

3. Training should mix members from different teams to increase organization cohesiveness.

4. A baseline series of measures must be established, against which the success of the teams may be gauged.

5. Choice of team members is crucial to team success. Members should be chosen based on technical expertise and ability to work in a group. Teams should be allowed to hire and fire members to maintain team effectiveness.

6. Assemble teams as early as possible. Ideally, teams should be set up prior to contract award.

7. Allow time for employees to adjust to the teaming approach. Responsibilities should be given to team members incrementally. Teaming is not for everyone. Some workers are not comfortable without direct supervision.

8. Pride of ownership improves motivation and product quality. Management should present strategic goals to workers and let them determine how to meet them.

9. Responsibilities and priorities must be defined for those who support multiple teams.

SUMMARY

This study provided a detailed report of the implementation of an integrated product team. The purpose of this research was to enhance understanding of the IPT concept and to facilitate implementation. The areas addressed in the study were work environment, team organization, training, group dynamics, motivation, and measurement. The most significant findings on work environment were that the organization's leadership should commit to the teaming idea and sell it to the organization's members.

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Study Questions

IMPLEMENTING INTEGRATED PRODUCT DEVELOPMENT: A CASE STUDY OF BOSMA MACHINE AND TOOL CORPORATION

1. The Bosma Machine and Tool Corporation experienced a number of barriers during the transition to self-directed work teams (SDWTs) from its previous organization. What were some of those barriers?

2. When a new team is put together to run a project, anxiety among members can run very high. As a project manager said, "Moving a team member's desk from one side of the room to the other can sometimes be just about as traumatic as moving someone from Chicago to Manila." What can the project manager do in order to reduce the initial stress among team members?
3. What are the characteristics of an effective team? Do you think these characteristics are present in less effective groups?
4. There are numerous examples in the literature of companies using self-directed work teams. Review the literature to find another example of the use of these kinds of teams. Discuss the organization of the teams and the benefits gained from their use.
5. Some opponents of the team approach might argue that the culture of the United States is too individualistic to support this kind of organizational design and that Americans are not predisposed to work as part of a team. Defend or refute this position.