Instructor's Manual
to accompany
PROJECT MANAGEMENT CASE STUDIES
THIRD EDITION
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John Wiley & Sons, Inc.
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Case  Clark Faucet Company

1. There are two critical issues in the case study. First, the company has too many projects going on at the same time. This is devastating without any type of prioritization system in place. Second, either marketing and engineering simply don't understand each other's problems or simply do recognize or appreciate each other's problems.

2. There has to be a prioritization system for the projects. It is improbable that any company can have 375 projects in a queue without any type of prioritization system. There should be a committee, with representation from marketing and engineering, on the prioritization committee.

3. Even with the existence of a prioritization committee, it may not be possible to achieve true excellence in project management if the culture is non-cooperative. The damage created because of the squabbling between marketing and engineering has spread throughout the company and may not be able to be repaired in the short term.

4. A minimum of two years, or even three, may be needed for people to forget the past.
KOMBS ENGINEERING

When you have "all of your eggs in one basket," the risks to the company are great. The management at Kombs Engineering suffered from complacency. The Department of Energy had become extremely competent in project management over the five years of the initial contract. Not only did Kombs not realize the changes that were taking place with their biggest customer, but they also didn't realize soon enough that their own business was project-driven and, therefore, in need of project management.

By the time Kombs recognized the need for change, the damage was done. Two months is certainly not enough time to educate a company and begin maturity in project management. Two years is probably a better time frame.
WILLIAMS MACHINE TOOL COMPANY

Present-day success often blurs one's vision of what could happen in the future. Management knew that specialization would be needed eventually and that project management could be the way to go. Typical discussion questions might be:

1. Could project management have been used for those projects involving modifications to the standard machine tool line?
2. How should you handle experienced employees who live in the past and refuse to accept project management?
3. Who should be blamed for the failure of Williams Company to react quickly to changes in the marketplace?
4. Is project management the real reason why the company was sold and employees lost their jobs?
5. Should Crock Engineering have held on to the Williams Company? If so, how?
6. Could there have been a hidden agenda behind the sale of Williams Company? (i.e., such as poor prognosis for the future of the machine tool industry)
WYNN COMPUTER EQUIPMENT (WCE)

I. Synopsis: Senior management at WCE has made a commitment to improve the quality of the project management function at WCE. The growth of WCE made it clear that this improvement was mandatory. Unfortunately, there were several problem areas that had to be accounted for.

II. Questions:

1. What are the major problems at WCE?
   A. Poor definition of the requirements.
   B. Lack of understanding of usefulness of computerized tools for project management.
   C. Poor training in the area of functional project planning and estimating.
   D. Poor understanding of a work-breakdown structure.
   E. No esprit de corps.
   F. No direction from management concerning the importance of a college education.
   G. Managers wearing "two hats."
   H. Employees never claim ownership.
   I. Poor communication between manufacturing, R & D, and engineering.
   J. Lack of knowledge of how to organize for project management.

2. What appears to be the major problem? The major problem appears to be the lack of understanding of effective project management. Some form of internal training program is necessary.

3. Can line managers effectively wear two hats? It is generally better for the project management function to be centralized among a few good project managers (i.e. full-time) rather than to dilute the project management function among several line managers. Unfortunately, in non-project-driven companies, dual hats are quite common.

4. Should there be two groups of project managers? This question is arguable, and is based upon how much technical knowledge is required for the project managers. The author prefers one, centralized group of project managers.
RELUCTANT WORKERS

I. Synopsis: Tim Aston, a young project manager, has been having problems in motivating his personnel. Also, he has problems in obtaining the best personnel for his projects as a result of the attitudes of the functional managers.

A) Team members leave afternoon meetings if these meetings continue past their quitting time.
B) There is poor communication between team members and the project leader.
C) There is a very distinct age difference between the project leader and the team members. The project leader is 30 years old and the average age of the team members is 46 years.
D) Most of the team members have been with the company 20 years or more, whereas Tim Aston has only been employed 3 months.
E) Team members are unwilling to postpone vacation time for the best interest of the project.
F) Team members are unwilling to postpone outside social responsibilities when they interfere with the project.
G) Functional managers are unwilling to assign an employee to the project team unless that employee makes the functional manager look good.
H) Many of the older employees are at the top of their pay grade, a pact which allows little incentive for working overtime or putting forward an added effort.

II. Questions:

1. **How has Tim Aston handled these situations?** Tim Aston obviously has not studied the needs of his team members. He has identified all of the symptoms of an unmotivated staff. However, he has placed all of the blame on them and the functional managers. He has failed to look inward for identification of possible problems. Instead of assessing his own strengths and weaknesses, he has pointed the finger of blame at circumstances and symptoms. He is even considering giving up project management. Perhaps he should get out of project management. If he cannot understand the behavior of his employees and the functional managers at the project interfaces, he will not be a successful project manager.

   The personal characteristics of a project manager are more important to success than the job specifications. Tim Aston's interpersonal skills and effectiveness as a communicator and integrator seem to fall somewhat short of the mark in his present environment. He must devote himself to motivating his team members through appealing to their desires to fulfill the needs of esteem and self-actualization. With an average age of 46 and an average service record of 20 years, these employees
have everything else the company can offer. Tim Aston, project manager, must through his personal effort and human relations skills, provide some assistance to his team members in achieving in and through his project those needs they now must pursue outside the company.

2. **Can the company help Tim?** The company can help Tim Aston by more clearly defining authority boundaries between functional and project management responsibilities. Project management always involves conflict and negotiation. These can be minimized through concrete organization charts and linear responsibility charts which are clearly defined and understood by employees at all levels. The relationships defined therein must be supported by upper-level management. The participation of upper-level management would not tolerate so readily a functional manager’s refusal to release a well-qualified volunteer to Tim Aston’s project. Employees would not be so reticent if they were aware that unsuccessful/unsatisfactory performance may result in transfer or dismissal from the project as well as disciplinary action. Misunderstandings could be eliminated through clear delineation of the project manager’s role in the organization and his authority and responsibility. The project manager’s interpersonal influences, necessary to his success, would be greatly enhanced.

3. **What are your suggested solutions?** The company needs to establish some guidelines for working in a team project. The company must emphasize the employee’s responsibility to the project. The company should change its current position on social responsibilities from, “We encourage social responsibilities and only hope that the outside interests do not interfere with their job” to “We encourage social responsibilities as long as they do not interfere with their jobs.”

The company must emphasize to the functional managers their responsibilities to the project. They must also establish a rating system to grade the functional managers on how well they cooperate and work with the project managers.

The company should review its current salary schedule and rating system. Employees who are at the top of their pay grade will be extremely difficult to motivate if they have little to anticipate with regard to salary increases, bonuses, and/or promotions. A salary schedule or bonus plan could be implemented for employees who perform well on team efforts.

Additional training in the area of projects may also help the situation. However, Tim may continue to have problems with the older employees, due to the age and seniority differences. Tim must understand this problem and use his interpersonal skills to break through these barriers.
Case    Hyten Corporation

Synopsis:

The automotive components division, which is heavily involved in new product development and marketing, is well staffed with qualified managers. The division is part of Hyten and has used traditional or informal project management at Hyten; that is, each functional area manages their own project assignment with little attention placed on integration.

New product development for special customer application required difficult scheduling and timely completion of individual tasks within different departments. It was believed that a formal project management function was necessary to manage and control this area.

The present system of informal project management at Hyten Corporation seems to be contributing to the growth of the automotive components division. In spite of the success and expansion of this division, it is now being proposed to change to a formal type of project management by Wilbur Donley, a new employee in charge of new product development. The task of implementing formal project management has been discussed between key people in the organization and potential problems have, of course, surfaced.

Questions:

1. What are some of the major problems facing the management of Hyten in accepting formalized project management? (Include attitude problems/personality problems.)

   A. The business development department has acted as the project manager, but many of the managers were concerned that a project manager would undermine their “empire.”

   B. Wilbur Donley was hired to establish, implement and direct new product development using project management. That plan is still in place and is key to efficient development and execution of the software packages.

   C. Personnel appear very pragmatic in their attitude.
D. The six directors are split on their interest in using and implementing project management. With no clear majority, there does not appear to be a mandate to Hyten management to install this organization into the corporation’s hierarchy.

E. Knapp (Director of Sales) stated that the business development department has “given customers information and delivery dates that we can’t possibly meet.”

F. Rich (Director of Engineering) has stated the informal approach to project management just doesn’t work all the time, and that the new matrix organization will only “mess things up.”

G. It was also stated that “the customer has very little control over funding, manpower or work to be done.” In today’s competitive market, this is not usually acceptable to the customer.

H. Harrell (Manager of Manufacturing Engineering) has stated that after he makes estimates of cost and lead times, the design groups start making changes resulting in cost overruns and not meeting schedule dates.

I. Hub (Manager of Manufacturing Engineering) has stated that after he makes estimates of cost and lead times, the design groups start making changes resulting in cost overruns and not meeting schedule dates.

J. How can we secure general management approval?

K. Business development has only line authority, not horizontal authority. Can we correct this situation?

L. How do we resolve the poor communications between groups?

M. Should the “first” project management slot be filled from within the organization or from outside?

N. How about the remaining positions? What are the ramifications?

O. How do we handle a situation where everyone fears that a new system will impose extra work? Is this true in the long-term, short-term or both?

p. Can the company operate indefinitely as they are now?

2. Do any of the managers appear to have valid arguments for their beliefs as to why formal project management should not be considered?

A. Lyons (Director of Personnel) is rightly concerned with the way the employees perceive the change; for example, how the employees are evaluated and from where the project managers are drawn.
B. Harold Grimes (Plant Manager) is concerned about his career development and his own "empire."

C. Herman Hall (Director of MIS) is concerned that he will not be able to provide the reports needed by the project management structure for several years.

D. Fred Kunc (Plant Engineering) feels that project management would only weaken his department's functional specialization because it would require cross-utilization of resources, manpower, etc.

3. Are there any good reasons why Hyten should go to formal project management?

In attempting to change from one method of doing business to another, the question must first be asked: Is there a need to change? At Hyten Corporation, there are several good reasons why a change should be considered formal project management to formal. Although the Corporation has met with success in the past, there is the danger that the informal system can break down at any time. The loss of a key person or the addition of someone not totally cooperative can bring the wheels of success to a grinding halt. The second area that could present problems is who actually is in charge of the projects in existence at any given time? Would a genuine, catastrophic crisis bring finger pointing and excuses? Also, is the automotive division working towards company success on the various projects or is there an epidemic of tunnel vision that hasn't surfaced since there have been no onerous crises? Although informal project management at Hyten Corporation has been effective, these are major areas that could break the back of the automotive division.

4. Has Hyten taken a reasonable approach toward implementing formal project management?

Hyten appears to be a successful and profitable company that is not afraid to reexamine itself in order to remain successful. Some members of the company's management recognized the problems associated with their informal project management approach and have now hired a new manager with formal project management experience. The managers are aware that potential problems exist with the implementation of a formal project management approach and are taking steps prior to implementation to insure the success of horizontal work management:

A. A seminar on project management was used to introduce Hyten's management and supervisory employees.

B. Donley has taken steps to gain internal advocates for project management (Farrel and Hub).

C. The personnel department is investigating potential employee problems and discussing possible solutions.
D. Line managers are being surveyed for their thoughts and opinions.

5. Has Hyten done anything wrong?

Nothing yet. However, Donley has to control his enthusiasm for project management in order not to make a critical mistake while he is trying to gain executive management’s approval of the approach.

6. Should formal project management give employees more room for personal growth?

Yes, especially in project-driven companies. However, in non-project-driven organizations, project management may exist only at the lower levels of the organization.

7. Will formalized project management make it appear as though business development has taken power away from other groups?

Yes.

8. Were the MBAs exposed to project management?

No.

9. Was the organizational personnel focusing more on the problems (disadvantages) or advantages of project management?

Focus was on the problems rather than the benefits to the company.

10. What basic fears to employees have in considering organizational change to formal project management?

A. Manufacturing will not be included in any discussion when design changes were made.

B. Selection of personnel from outside the company to act as project managers.

C. Feeling that the project manager must be technically competent in the project area under consideration.

D. Satisfaction by some departments within the vertical organizational structure which will make horizontal implementation difficult.

E. Fear of additional workload.

F. Management that will embrace formal project management; management that will ride the fence; management that is against formal project management.
G. Fear that project management will limit the growth of employees.

H. Fear that the implementation of project management will require a complete organizational restructuring along with additional controls and procedures.

11. Must management be sold on project management prior to implementation?

It is obvious that top management and line managers must all be sold on the idea of formal project management before trying to implement same. It is important that the line managers know that their authority will not be threatened. The project manager is responsible for coordination, not assignment or direction of the personnel involved.

12. Is it possible that some of the support groups cannot give immediate attention to such an organizational change?

Such groups as personnel, accounting and computer services cannot react quickly to the changes required for the new system. Temporarily, the number of personnel in these departments will increase to satisfy these needs.

13. Do functional managers risk a loss of employee loyalty with the new change?

Functional managers may not be willing to risk losing this power that they have built up over a period of time. Subordinates may look to the project manager as the leader rather than the conventional departmental head.
14. What recommendations would you make to Hyten Corporation?

This case study clearly shows that the implementation of formal project management at Hyten is a two-fold problem. The first problem is setting up the mechanics and, secondly, training and assuring the personnel at Hyten that project management, given some time to work out the “bugs,” is in everyone’s best interest.

A. Formal project management is essential to Hyten in order to develop cross fertilization of talents and experiences and optimize on the effectiveness of the functional areas as part of a “total” company effort.

B. A continual program of education is required company-wide on the application and usefulness of project management.

C. A small number of key projects should be started under the project management organization of the new business development department and gradually phase in the new practice company-wide.

D. Total commitment and support must be obtained form the division president and all directors in the use of formal project management.

E. Personnel administration problems should be decided where the project manager submits a performance appraisal of the project team member, after the project, to the functional manager. The functional manager has line responsibility for the project members that might be on the project manager’s team, and this should not be violated. The functional manager should determine, based on performance, pay increases and promotion opportunities for the employee.

F. Wilbur Donley must obtain a commitment of at least two years from the general manager to institute project management at Hyten. This will demonstrate to all that upper management is sincere about project management and is willing to give it the time to succeed.

G. Project managers should be chosen from both inside and outside talent. Those inside can provide insight to operations and problems, and those from the outside can bring fresh unbiased ideas into the project team. Those employees who did not get chosen, and wanted to, should be reassured that they are important team members in the functional organization, and the future is not dead-ended.

H. This new formal project team should be given immediate formal training in project management’s role in the company. Also, the functional managers should be given additional training on how they function and their importance in the matrix organization.

I. The existing formal project management procedures should be written down and examined by the new formal project team. These procedures should be discussed in
open meetings with all affected parties. The procedures should be modified at first only when there is a clear need. This will assure the least possible disruption of activities when the new formal project team “starts running” jobs.

J. The new project team should now be allowed to manage the new contracts as they come in under the watchful eye of Wilbur Donley and the general manager.

K. Frequent meetings should be held between the project team and the lead people on the project from each functional group to open and keep open lines of communication. Eventually, the number of formal meetings can be reduced as the functional leaders become accustomed to these horizontal lines of communication.

L. Gradually, the employee appraisal, information systems, scheduling, etc., procedures can be modified to make the project management and functional management ever increasing in effectiveness.
Case    Macon, Inc.

1. Once finger-pointing and internal competition exists, resistance will come from everyone.

2. The plan should be to educate the employees and managers that the survival of the firm may be at stake. If a plan is to be developed, it should be done through a committee composed of all the departments that provide resistance. A methodology must be developed and executed by a supportive culture.

3. Overcoming resistance may take at least one year and then 3-5 years later to achieve excellence if at all possible.

4. If the customer loses faith in Macon, then the customer may seek out other companies more experienced in project management. The customer with superior project management skills may decide that they no longer need Macon and can manage the projects themselves.
Case  Continental Computer Corporation

I. **Synopsis:** Continental Computer Corporation (CCC) found itself in a position of rapid growth in which its three local divisions could no longer operate as separate entities. Although each division had its own customers, business base, organizational structure and distinct product lines, there were now massive projects which required that the sister divisions communicate with one another. The company now pondered how to obtain centralized control for those projects with decentralized divisional control. The case study describes the major problems encountered by each division.

II. **Questions:**

1. Is it common for companies to maintain two or more sets of books for cost accounting? It is possible that every customer may require that cost information be reported differently. Therefore, the contractor may have no choice but to accept this as part of the terms and conditions.

2. Is the matrix structure well suited for the solution to the above question? Yes, because each horizontal line operates independently.

3. Why do most project management structures find the necessity for a dual ladder system? Functional employees would like the opportunity to advance as functional specialists without having to go into management. Without a dual ladder, the company may find that its best technical specialists are continuously applying for transfer to project management and project engineering.

4. Should companies with several different types of projects have a uniform procedure for planning projects? Definitely so.

5. Is it beneficial to have to take conflicts up two or three levels for resolution? No, conflict should be resolved at the lowest organizational levels.

6. Should project managers be permitted to talk to the customer even if the project is in support of a product line? Yes.

7. Should corporate R&D be decentralized? This question can be argued both ways. The author prefers centralized control over R&D.

8. Additional questions:
a. What is meant by seed money?

b. How does control of seed money differ in a decentralized versus a centralized R&D environment?

c. Should the failure of a "grass roots" project affect an employee's opportunity for promotion?

d. If you were the vice president of either Engineering or R&D, would you prefer centralized or decentralized control?

e. In either case, how would you handle each of the previously-defined problems?
Case  Goshe Corporation

I. **Synopsis:** Herb Banyon, executive vice president of Goshe Corporation, was having difficulty upgrading the EDP department. His objectives in accomplishing this was to take the EDP department out of the financial organization and have it become an MIS division, apparently reporting to him. Prior to the reorganization, hostilities had been built up between EDP and the users because of salary administration problems and organization conflicts due to separating engineering programming from the rest of EDP. This conflict further developed into a separation of EDP from the rest of the organization.

Al Grandy was promoted to division EDP manager as part of upper management’s direction to upgrade EDP. This movement by management did not work in making MIS a “contributor” or a cohesive part of the organization.

II. **Questions:**

1. What are the major problems in the case study?
   
a. Personality clashes: line vs. MIS managers
   
b. Projects behind schedule
   
c. Programmers unhappy over wage and salary administration
   
d. Functional groups want to control their own computers
   
e. “Closed shop” EDP environment
   
f. Top management meddling; Banyon is establishing schedules without any feasibility studies
   
g. Grandy not allowed or not utilizing his access to Banyon
   
h. Engineering and manufacturing managers see this situation as a power play for Grandy – a threat to line managers
   
i. Grandy’s group is making demands rather than requests
j. Grandy’s group is not seeking advice
k. Other department employees not cooperating with MIS division on project management implementation
l. MIS being perceived as glory seekers and supplying Cadillacs where the need is for a jeep – not meeting the needs of line divisions
m. Line management personnel changes delay projects in mid stream by creating new goals and objectives
n. Grandy is myopic. He is focusing more on the establishment of a division than the completion of his #1 project – have EDP contribute to profits by introducing a successful projects management approach
o. Misunderstanding of project management’s structures
p. No lower level input into priority lists; no clear priorities
q. No understanding of the role of MIS; poor image and credibility
r. Too many small functional empires
s. No marriage between corporate and functional goals
t. Lack of top management support together with rapidly changing priorities
u. Poor communications
v. No clarification of roles and responsibilities
w. Too sophisticate an individual in charge of the project
x. 15 MIS projects without any established priorities
y. Deadlines (often unrealistic) assigned by top management
z. Line managers not involved in planning

2. What are the user group’s perception of the problem?
   a. Herb Banyon did not understand the EDP or MIS function or how to manage it. His direction is isolating the MIS activity from the rest of the organization and was not achieving the objective of the company nor increasing the productivity of this function. It appears that top management did not know how to integrate the MIS technology into their strategic business planning process. Also, top
management at Goshe is very naive to believe that MIS can contribute to the corporate profits by independent action that involve implementation in user areas without the user being involved, especially as the project manager.

b. The accounting manager perceived the lack of interpersonal skills by the MIS people being the major problem. This, in fact, could be a key symptom of the problem of improperly managing an MIS project that involves multiple functional areas and divisions when MIS is the project manager. It also can be used as a "cop out." Even the top organization development expert would have extreme problems in this kind of environment. The manufacturing manager wanted to participate in certain hardware selection that was determined by MIS. This is another bad symptom of improper project management where MIS determines not only the business systems specifications but also that hardware that will be used by the user.

c. Grandy was not a business manager in his understanding and application of MIS resources; e.g., in an environment such as the one at Goshe, you would never put a "rookie" in to take the place of an experienced analyst unless he had systems direction from Grandy. Also, being a "good guy" should have meant applying MIS resources on projects where non-MIS activities could have been of some value to the company and the project.

2. Was the company committed to project management?
3. Was project management forced upon the organization?
4. Did Goshe jump blindly into project management or was there a gradual introduction?
5. Did the company consider the problems that could manifest themselves with the implementation of change (i.e. morale)?
6. Did the company have a good definition of project management?
7. Should there have been a new set of company policies and procedures when the MIS group was developed?
8. How were project deadlines established?
9. Who established responsibilities for resource management?
10. Was there an integrated planning and control system?
11. Was there any training for division or project managers?
12. Should Grandy have been promoted to his current position or should someone have been brought in from outside?

13. Can Grandy have been promoted to his current position or should someone have been brought in from outside?

14. Can Grandy function effectively as both a project manager and a division manager?

15. Do you feel that Banyon understands computer programming?

16. Did anyone consider employee performance evaluations?

17. Did the company have good vertical communications?

18. Can a company without good vertical communications still have (or develop) good horizontal communications?

19. With the development of the MIS group, should each division be given 7% in the future?

20. What are the alternatives that are available?

   a. Do nothing – have more meetings – let the divisions work out their own problems.
   b. Demote Grandy and the MIS division back to the Finance Division’s EDP department stature.
   c. Top management must commit to the project management approach and provide both the MIS Division personnel and line managers training. The training should occur how it works, problems that will arise, possible activities to minimize problems, and recommended problem solutions. Obviously, Goshe does not have an internal source for this information and understanding of project management; thus, they must hire the expertise for training and implementation of the approach.

Since we are confronted with an existing situation, the recommendation should not be “textbook” but rather a recommendation that considers the current problem facing Goshe Corporation.

Goshe Corporation’s management wants the MIS Division to contribute to profit. A reduction in Grandy’s or the MIS Division’s status now will undermine any future effort to implement project management or other scheme of horizontal work management. Therefore, alternatives one and two are rejected as unacceptable.

Alternative three is accepted and should be implemented in the following manner: