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Strand Project Management Report

To: Mr. Robert Hedke
    Mr. Robert Strand

A. INTRODUCTION

A project can be most simply defined as a set of work actions having identifiable objectives, and a beginning and an end. Management is the application of available resources.

So, it can be said that a project manager is one who helps establish objectives generated by a need, plans how these objectives are to be reached through a set of work actions, and then assembles and directs the application of available resources to achieve the objectives.

The art of project management has been one to which lower, middle, and upper executives have addressed themselves almost from the beginning of business history. The approach to project management currently proving most effective has resulted from a movement away from the specialized manager being in charge, toward the universal manager directing the program utilizing talents managed by the specialized (or functional) manager. This has produced a potential for multiple management situations that, without proper direction and attention, can often cause severe problems.

It is essential to recognize that project organization
is different than the functional organization. There
are three fundamental differences:

1. Project organization is relatively temporary.

2. Project organization may be built on different
    staff relations than is the functional organization.

3. Project management positions tend to be vested without
    necessarily requiring proven experience in a
    given field of endeavor.

These differences set aside the project manager as a
unique and valuable employee who provides future executive
potential in the total organization.

Most projects have the following features and requirements:
(generally in the sequence shown)

1. Goals and objectives must be clearly defined from
    the beginning.

2. The desired course of action from start to finish
    should be explicitly stated as a standard of
    performance (if you can't plan it, you can't
    manage it).

3. The resources required to do each action from
    beginning to end must be identified and made
    countable.

4. An organizational structure is best built under
    (not over) project action and resource
    requirements to give the project quality,
    continuity, and monitorability.

5. Project resources are assembled and put to work once goals and objectives are defined, a plan is prepared, resources are identified, and the organization has been established.

6. During project implementation a method of isolating, identifying and correcting deviations from standards of expected performance must be devised and applied.

7. Project performance should be measured to reward competence, and to correct and improve lesser efforts as the work proceeds and upon its completion.

8. Starting and ending measuring points are usually set by the ongoing management of the company and the project manager.

The basic rationale of project management is derived from a need to combine specialized functional excellence with overall management excellence. Functional excellence is achieved within divisions of the company sometimes called departments. For instance, at Strand there are eleven main functional departments (not including project management):

- Executive
- Manufacturing
- Sales and marketing
- Engineering
- Proposal engineering

- Controller
- Service
- Purchasing
- Personnel
- Data processing
- Corporate development

Each of these is expected to accomplish some specialized activity within the overall business, thus contributing to the fulfillment of Strand socio-economic purposes.

On the other hand, the major thrust of the Strand business is to obtain a project which is, as defined above, a set of work actions having identifiable objectives and a beginning and an end, then to execute this project so as to derive income that will support the company and furnish it a profit on its efforts. Management of the project requires competence in assembling the diverse functional activities to be provided by the specialized departments.

Thus, we have a dual level management - that responsible for directing application of available resources to accomplish each specialized activity, and that responsible for directing the assembly of these special activities into a whole project. The second effort is what we commonly term project management.

Project management has always existed, except all too often in the past it has been carried out by the more aggressive functional manager who takes it upon himself to insure a smooth interface and transfer of information occurs across functional boundaries. Thus, project management was accomplished many times by default rather than by plan; it was defensive rather than constructive. Frequently the informal project management system worked well, but it certainly provided no assurance that the experience gained was used to strengthen the company. In fact all too often that good experience was lost once the aggressive and competent functional manager moved up to the executive ranks.

Project management today then becomes a studied, deliberate effort to apply a body of managerial knowledge to knitting together the many functional elements needed to do the total job. In every firm there is a need to maintain operations that continue, irrespective of whether projects are available or not. Accounting, estimating, research and development, sales, marketing, purchasing, personnel, training, data processing - all have an ongoing role to fill in the company as well as a project role in specific applications. Thus, the interrelations between people and activities within a project-oriented company become very complex and are not likely to automatically evolve into an effective management system. A conscious effort is needed to establish and

and maintain good project management.

B. RECOMMENDATIONS

Aggressively and actively instituting an effective project management system at Strand will require directed action on the part of top management. It will also require continual refinement of company purposes, goals, and objectives.

In light of this I recommend that:

A. Steps be taken immediately to implement a project management system at Strand.

B. Concurrently with implementation of a project management program the executive staff of Strand bring about true and worthwhile changes in the entire company.

C. Organizational restructuring of the Strand company, as may be required, be done along with implementation of the project management program.

D. The project management system be designed to better link the functional components at Strand.

E. The phase by phase activity description for each major division be reviewed in detail by top management, approved by them, and published to department heads.

F. A project management job description be prepared now and updated as the true nature of the project management position emerges.

G. Professional qualifications for a position as a
    project manager be clearly defined and used to
    select and train the PM staff.

H. An inventory of the work experience, educational
    background, professional qualifications and
    career goals and objectives of the Strand staff
    be taken immediately to aid in locating internal
    project management staff potential.

I. A well planned and well managed staffing program
    be initiated concurrently with implementation
    of the project management program.

J. Early project management be kept flexible to allow
    ongoing observations, analysis, and improvements
    to be made of and in the system.

K. Department goal and objective definitions by all
    department managers be required as part of the
    project management system implementation.

L. Goals and objectives for future jobs be set for
    each project by top management and the project
    management staff during negotiating and closing
    phases of prospective projects.

M. The relation of upper management at Strand to
    the project management system be clearly identified
    by upper management.

N. A project manager training program be implemented
    concurrently with introducing the project
    management system into the company.

O. A company-wide training program be instituted
to teach effective use of the project management
system to all middle managers.

P. A close interface be established and actively
encouraged between sales and project management.

Q. Project management be especially charged with
generating healthy interaction between functional
groups.

R. A company-wide glossary of terms be prepared and
maintained to help all staff members speak a common
project language.

S. A common, unified project planning system (CPM)
be adopted as a standard requirement for use
by the project management staff.

T. Project managers be given both central and local
data processing capabilities.

U. A project reporting system be implemented through
project management, that serves all components
of the organization.

V. Strand, through the project management system,
improve tracking of the financial profit status
of each project.

W. Project management be encouraged and expected to
stimulate a sense of excitement for the future
of Strand by setting an example of performance
excellence.

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These twenty-three recommendations will not be easy to implement. However, by steady application of talent existing at Strand now it should be possible within a reasonable time frame to bring on line a PM program that will satisfy Strand's requirements.

(Note: In the report the initials PM will be used in many instances to refer to the project management system).

C. IMPLEMENTATION

All the above 23 recommendations will require response and action by Strand top management. Each is discussed in detail below. The set of 23 should be considered a suggested implementation program that could be embarked upon now.

A. Recommendation: That steps be taken immediately to implement a project management system at Strand.

Discussion: The PM technique has already been reviewed in great detail many times by top Strand management. A decision has been made to implement the system, and therefore this recommendation is included to reinforce the ongoing evaluations made over the past several months.

There are some barriers to immediate implementation. One of these is a current, apparent lack of qualified people. At one time, Mr. Lee Thomas was considered

to be the project manager with the overall PM
activity directed by Mr. Hedke. However,
Mr. Thomas' workload is taking a direction
different from the normal project management
assignments. Therefore, a temporary barrier has
appeared to full implementation, and introduction
of the system may have to be paced by availability
and training progress of staff in PM techniques.

However, it is essential Strand proceed now since
present sales and marketing efforts are designed
to produce a workload growth of 10% per year in
gross business volume. An increase of this magnitude
will require immediate and aggressive action by Strand (β)
top management to implement a PM system that can
properly respond to the constantly increasing
volume of work desired.

Also, the present Strand workload is down, offering
an ideal opportunity to concentrate on bringing the
PM system into operation.

B. Recommendation: That concurrently with implementation
of a project management program the executive staff
of Strand bring about true and worthwhile changes in
the entire company.

Discussion: Critical to the success of a PM program
is understanding that a change is possible in the
manner in which the company is managed and does
business. There has been growing acceptance of the

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need for managerial change and improvement at Strand.
Recognition of this need can now be translated into
action as project management is brought on line.

PM by its nature extends over all functional
boundaries and thus, can be used as a vehicle to
require high performance by the functional groups.
In fact, project management cannot exist as it
should unless high grade, competent functional
management is maintained.

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Strand is presently working on several special
programs such as project F, implementation of a
computer-aided design and manufacturing system
(CADAM), planning for a new headquarters building,
and other special technical programs to improve
penetration of the marketplace over the next few
years. These efforts will demand good project
management be available.

Another related improvement that should be accomplished
concurrently with PM implementation is to strengthen
weaker departments, and establish a succession
training program within each major division of the
company. Project management offers opportunities
for promotion and upward movement within functional
groups. Opportunity tends to encourage higher
performance levels and greater expectations at the
departmental level. It is not adequate to go into

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a PM program without a concurrent effort to strengthen the entire present organization and raise its performance level.

As project managers are trained and brought into active management positions they will have to be totally acquainted with the structure of the Strand company. This means that Strand management must carefully define the duties, responsibilities, and authority of each major division so project managers will understand the nature of the operations for which they will be ultimately responsible. Also, project managers must be willing and able to work within that organizational structure without losing sight of the need to be always aware and responsive to potential for its improvement.

Thus, a true and worthwhile change can be made in the Strand company as PM is brought on line.

C. Recommendation: That organizational restructuring of the Strand company as may be required be done along with implementation of the PM program.

Discussion: The most direct need in establishing a PM program is to insure that the reporting system allows free access of project managers to top and middle managers. At present Mr. Hedke is acting as the chief project manager (project director).
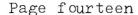
Also, there are only two formally designated PM's on the staff. Therefore, the present basic system works but only under limited demand.

It is important internally that the organization structure adopted for PM set a good example for other elements of the company. Company organizational improvement can thus be best implemented as the PM program is implemented.

D. Recommendation: That the project management system be designed to better link the functional components at Strand.

Discussion: Often, present operations at Strand are segmented and splintered so cross fertilization across departmental lines is difficult. As a general rule a free flow of information and action across functional boundaries, if controlled properly, can be helpful. The project management effort must aid in controlling and directing this lateral freedom of movement without negating lateral movement advantages.

It is seen time and time again that problems within a functional group are caused by the impact of actions taken in other divisions or departments of the company, but not controllable, and often not influenceable, by those most directly affected. Project management is specifically designed to prevent this lateral movement dysfunction and to encourage strengthening of cross ties at the functional level.

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Occasionally functional splintering is used as a way of surviving and unfortunately of controlling project quality and progress. Elimination of functional splintering that is detrimental to project quality and progress is one of the major jobs of a good PM. To do this, in a project management system, the functional manager should be allowed and encouraged to strongly direct specialized project operations while project managers insure that the entire program remains intact and healthy. Project management must encourage the functional manager to strive for effective use of his resources.

Another difficult communications link that is often ignored or left unattended is the transition of a project from sales and marketing into an obtained profit opportunity. This transition must be made so all information is properly transferred from those who have sold a scope of work to those who must now produce that work within the constraints of the contract conditions. Assignment of the project manager during the negotiating and closing periods, and perhaps even earlier on complex programs, should help insure the bridge is made between sales and the design, manufacturing, and installation phases. Project management is responsible for building the bridges between phases of work.

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E. Recommendation: That the phase by phase activity

        description for each major division be reviewed

        in detail by top management, approved by them, and

        published to department heads.

    Discussion: Over the past six months Mr. Thomas and I,

        under the direction of Mr. Hedke, have identified the

        activities that each major department should be

        responsible for carrying out during each of six

        phases of work through which a project at Strand

        moves. The departments for which these activities

        have been identified include:

        - Project management

        - Manufacturing

        - Sales

        - Engineering

        - Proposal engineering

        - Controller

        - Service

        - Purchasing

        - Personnel

        - Corporate development

    The six phases through which a project moves at

    Strand are:

        - Prospecting, marketing, and sales

        - Proposing

        - Negotiating and closing

- Design

- Manufacturing (material management, production, and
    shipping)

- Start up, warranty, and service

The departments and the phases have been assembled
into a matrix of activity descriptions to permit
analysis of what each of the departments is to do
during each phase of the work. This information
has been provided to Strand top management, and
I recommend that within the next three weeks the
current edition of this material be reviewed,
approved, and issued to department heads.

There are some departments whose activities are
not included in this phase by phase description.
We plan to incorporate those as their role in projects
is more clearly established.

Among the departments described was the corporate
development division. Recommendations for the
activities of Corporate Development in each phase
may be revised since this particular division is
presently concerned with a special group of very
sophisticated programs. However, the need is
great for a department that fulfills the activities
presently described under corporate development.
This matter should be reviewed by Strand top
management over the next two months.

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One of the major reasons for preparing the phase matrix is that identification of what each functional department does has been blurred in the past by inadequate descriptions of their relations with other departments. Hopefully the phase matrix will better define these interrelationships and assist project management to determine where responsibility and authority lies in project operations.

Another reason for preparing the matrix is that the PM involvement has been extended somewhat since the early concepts of project management were first stated at Strand. It is now recognized that an early and planned involvement of PM is essential to success of the program.

(Note: A copy of the work phase matrix is attached).

F. Recommendation: That a PM job description be prepared now and updated as the true nature of the project management position emerges.

Discussion: The basic responsibility of the project manager is to model, monitor, and manage. Since a PM's authority, responsibility, and effectiveness depends to a great extent on acceptance of his participation and need by the functional staff, the PM's position must be identified and supported by top management.

I suggest the following elements be incorporated into the PM job description and that the description be based upon the work phase matrix for project management.

Elements of the job description should include:

1. Definition of the purpose of the job.

2. Responsibilities of the position.

3. The activities and duties required of those holding that position.

4. The authority of the person in the job.

5. The functional relations of the position, both from and to those with whom the project manager must interact (the basic relations are formal, informal, reporting, staff, and temporary).

6. Qualifications required for the position.

Although Mr. Thomas and I have partially set the job description elements in the work phase matrix, completion of the description ready for formal company use is the responsibility of the executive staff. I will, of course, be pleased to help in preparing the final description, and it should be a relatively simple matter to put into final form.

G. Recommendation: That professional qualifications for a position as project manager be clearly defined and used to select and train the PM staff.

Discussion: Although this is an overlap with

recommendation F, it has a special flavor. The

PM system must be designed to instill a high level

of professional belief, both internal and external,

to work at its best. Since the PM department is often

a training ground for future middle and upper management,

those selected for service in the project management

group should be possessed of qualities desired at

company top management levels. Thus, qualifications

must be clearly identified and adhered to as a

standard in selecting those who are to be brought

on line as project managers.

H. Recommendation: That an inventory of the work experience,

educational background, professional qualifications,

and career goals and objectives of the Strand staff

be taken immediately to aid in locating internal

project management staff potential.

Discussion: Mr. Hedke and I have already reviewed this

action, and it now should be accomplished as soon as

possible. I suggest the personnel department be

consulted in preparation of the inventory format since

it presently has best access to the records of each

employee.

Each employee should be told why the inventory is

being made so the opportunities that come from an

evaluation of qualifications are known to the staff.

It is important to understand that the satisfied

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and high performance employee is usually found

to be one whose personal and career goals and

objectives coincide with the company's goals

and objectives. A matching of the two is the

best way of insuring a high probability of success

in keeping and motivating good staff members.

Again, I shall work with Mr. Hedke and the personnel

department as they desire, to set the basic structure

of the inventory. It should be designed to provide

the following information about each employee:

1. Working experience

    A. Positions held

    B. Projects worked upon

    C. Role in those projects worked upon

2. Educational background

    A. High School

    B. College

    C. Continuing education

    D. Special training and education

    E. Teaching assignments

3. Professional qualifications

    A. Work-related societies and organizations

    B. Papers, articles, and books written

    C. Honors or awards received

    D. Positions held in work-related extra curricular

        organizations

4. Career goals and objectives

    A. Personal

    B. Vocational

    C. Professional

5. Special interests and abilities

    A. Personal

    B. Work related

    C. Professional

Although the above is not a comprehensive inventory outline it incorporates some of the most important of the items to be determined about Strand's employees.

The format should be designed so the data included can be retrieved in any manner required. For instance, if a need arises for special talents in graphics, and a working knowledge of paint ovens is also required along with a certain level of academic achievement it should be possible to quickly screen the entire Strand staff to see who has this background and talent.

The inventory should be brought up to date at least once a year and can be also used to maintain a record of employee improvement and participation as he or she moves to increasingly responsible positions with Strand.

I. Recommendation: That a well planned and well managed staffing program be initiated concurrently with implementation of the PM program.

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Discussion: As the previous recommendations are

carried out it will be necessary to plan and execute

a PM staffing program. Usually a project manager

gains his position by having authority and responsibility

given him. This giving or vesting is a responsibility

of the Strand executive staff.

As part of the staffing program the method by which

support services to the project managers is provided

should also be established. Adequate secretarial

and filing help should be available and space

should be provided so the PM function can be carried

out apart from the functional managers. Probably

pooled secretarial and filing help within the PM

organization will be necessary and may be desirable,

rather than permanently assigning the personnel

to single individuals. It is important that adequate

support help be given the project management staff.

J. Recommendation: That early project management be kept
flexible to allow ongoing observations, analysis,
and improvements to be made of and in the system.

Discussion: The reason for maintaining early flexibility

is to avoid overcommitting to an individual, method

or system that may have to be changed as the true

needs and application of PM emerge and are identified.

The basic purpose of the project management staff is

to combine resources and opportunities into an

operational mode that insures business and societal

success. The method by which this is accomplished

can, and certainly will, change as the project
management program is established.

Early flexibility will also allow observations of the
maximum and minimum workloads that a project manager
can be expected to assume. Determining the workload
that produces the most effective PM results is unique
with each company and with each set of projects.
It is important to balance out the workload and
the need so project management does not become an
excessively high overhead item that costs more than
it returns. Above all, PM must pay its way.

Maintaining early flexibility in the operational
method will allow needed changes to be made with
minimum adverse impact upon project management
performance.

K. Recommendation: That department goals and objective
    definitions by all department managers be required
    as part of the project management system implementation.

    Discussion: Any attempt to impose standards upon
    operational elements of the company without their
    adequate involvement creates confusion in working
    toward company goals and objectives. Strand top
    management is presently engaged in studying
    corporate goals and objectives and preparing basic
    statements of purpose. These must be used by
    department managers so they set their goals and

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objectives consistent with those of the total
corporation.   .

By taking this action concurrently with implementation
of the PM system, the work of the PM   will be made more
effective. He and the department manager will have
a better working understanding of what each department
has as its purposes, goals, and objectives.

In long-range planning for the company I strongly
recommend that efforts be made now to build Strand
around goals, purposes, and principles. There have
been strong efforts during the past 10 years toward
bringing competent people into positions of authority.
The heavy management concentration, in my opinion,
over the next few years should be to use these
stronger people and the most competent staff members
to implement what has been set as company wishes and
desires.

Good project management and sound, achievable, well
thought through goals and objectives at all levels
of the corporation go hand in hand.

L. Recommendation: That project goals and objectives be
    set for each project by top management and the
    project management staff during negotiating and
    closing phases of prospective projects.

    Discussion: During the negotiating and closing phases of
    a prospective project, PM should be:

1. Reviewing action plans and schedules for final agreed profit target achievement.

2. Disseminating needed project information to functional departments as required.

3. Obtaining approval from department managers of project plans and schedules.

4. Available for meetings with the prospect as required.

5. Preparing project plans and schedule alternatives as required by negotiations.

These are the actions generally defined for the project manager in the work phase matrix. For the project manager to accomplish the above he and top Strand management must set the project goals and objectives. Project goals and objectives vary from job to job and a lack of good direction as to desired targets usually contributes to early confusion, disorganization, and disenchantment.

Definition of goals and objectives for each project should incorporate a review of the following as a minimum:

1. The profit intended to be made on the job.

2. The number of hours expected to be expended in accordance with the proposal estimate.

3. The desires of the company in respect to on-project staff training.

4. Definition of the nature of the relations
   the company desires to maintain with the
   customer.

5. The degree to which experimentation with new
   technical and management methods will be
   encouraged or permitted on the project.

6. The degree to which new management techniques
   can be applied to the project as distinguished
   from the routine management methods normally
   used.

M. Recommendation: That the relation of upper management
   at Strand to the PM system be clearly identified
   by upper management.

Discussion: Top management of Strand must take an active
   role in defining PM activities and giving direction
   to the PM group. This increased responsibility will
   probably require improved working communications at
   upper levels of the company. Presently there are few
   regularly scheduled executive's meetings to establish
   direction.

   I further suggest that a complete review of executive
   working hours and management interfaces with each
   other, with the PM staff, and with other functional
   managers be made and that improvements up and down
   the communications ladder be implemented.
   Specifically, I recommend the following:

1. That a better match be made than is presently existent between the working hours of the Strand executive staff and its middle management group.

2. That regularly scheduled project reporting sessions be held between the Strand executive staff and the PM department or the chief project manager.

3. That periodic reviews be made by top Strand management with the functional department heads to insure that the company goals and objectives are understood and are being met through achievement of departmental goals and objectives.

4. That the executive staff develop or have developed as many management-by-exception techniques and systems as possible. This to permit most effective use of management time in monitoring and evaluating key elements of the company operations.

   It should be kept in mind that monitoring of ongoing as well as project operations is a responsibility of top management.

5. That the top management staff itself schedule regular executive meetings at which company

progress toward achieving defined goals

and objectives is reviewed.

It is very important that the Strand executive staff

be deeply involved as a group in all new thrusts and

innovations of the company. As mentioned earlier

the role of project management is to successfully

combine resources and opportunities through an

operational mode into business and societal success.

This is precisely the responsibility of top management

at a total corporate level.

The responsibility is one that cannot be delegated

and must be carried out by the executive staff.

Essentially, it is the corporate development activity

described in the attached work phase matrix.

By excellent management of their own work and

achievement of targets they have set for themselves,

top management can signal to lower echelons that such

achievement is expected of them also. This is

particularly important to the project manager who

depends upon top level support for his basic source

of authority.

N.   Recommendation: That a project manager training program

be implemented concurrently with introducing the

project management system into the company.

Discussion: Good performance within a functional group

is no assurance that such performance can be expected

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of the same man in a project position. It may be a
good starting point, but training for the project
manager must be ongoing and continuous.

It is important to teach the project management
staff what various business relationships the PM
is apt to need and understand in his work experience.
This includes not only extensive knowledge of internal
Strand operations but external Strand relationships.

In addition, the PM must be encouraged to develop
a full appreciation of the importance of every
functional group, and over a period of time to
wipe out any bias he might carry over from his
previous educational, professional, and work experience.
For instance, if a project manager has been an excellent
mechanical engineer he certainly will want to remain
an excellent mechanical engineer; on the other hand
he must not allow his bias for mechanical engineering
to diminish an effort toward achieving excellence
in electrical engineering or structural design
on any given program. Elimination of such bias
in a project manager's thinking is sometimes one
of the most difficult training barriers a PM has
to cross on his way to full success.

Actions that could be taken to initiate PM training
include the following:

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1. The model for the PM program being developed
    through this report and the efforts of
    Mr. Thomas, Mr. Hedke and others be
    communicated and explained in depth to
    present and potential project management
    staff.

2. The various internal working relations that
    the project manager will need to understand
    at Strand be identified and clearly explained
    to the PM staff and the functional staff.

3. Training of PM's and potential PM's in the
    CADAM system should be started as soon as
    possible. An important element in proper
    acceptance and use of CADAM will be a
    thorough understanding of the method by
    PM's. This understanding will allow them
    to expect and require CADAM use and performance
    at a functional level that will insure project
    success. Thus, CADAM will receive support
    in multiple directions which should allow the
    system to be brought on line most effectively.

4. That business and managerial techniques be
    taught to the project management staff as well
    as the functional managers in a series of
    internal educational efforts over the next
    year. This organized management training

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and educational program is important to
insuring that, as the Strand workload
picks up, its management will be competent
enough to accomplish it profitably.

5. That the PM staff be trained to understand
the organizational structures of the companies ⓑ
with which they will be working. This includes
architects, engineers, general contractors,
specialty contractors, customers, attorneys,
financial sources, planners, governmental
agencies, construction managers, and others.

Each of these is different. Each has its own
unique vocational and professional characteristics.
A thorough understanding of how they work is
essential to effective meshing of the efforts
of Strand and these other organizations.

6. That a library be started for the PM department.
This does not mean that PM's alone are to be
allowed to use it. If built for the project
management department in an accessible location
it could attract others to use it as a reference
source.

Presently there are some individual library
collections within the Strand organization.
It might be well to centralize a library
function to permit company-wide use of written
and other audio-visual resources.

O. Recommendation: That a company-wide training program

be instituted to teach effective use of the project

management system to all middle managers.

Discussion: If a PM system is to work properly the

functional managers must know what it is, how it

will aid them in their work, and what it is that they

are expected to do that will make the PM program

good for Strand. It cannot be expected that a

functional manager will automatically know all there

is to know about project management. In fact, many

will consider PM, because of its multiple management

potential, a distinct threat to their position, and

may strive to work around it or even in extreme cases,

against it. Frequently failure of a PM system is

simply because of a lack of understanding by the

functional staff as to how to work with PM's to make

everyone's effort meaningful, contributive, and effective.

In addition, the training program for the functional

staff provides an opportunity for top management

to make the project managers well known within

the company, and to show first hand their support

for the PM's position, authority, and responsibility.

P. Recommendation: That a close interface be established

and actively encouraged between sales and project

management.

Discussion: As is stressed in other recommendations

project management, and marketing and sales must

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work closely together as advocates. Perhaps

more than any other groups within Strand these

departments must each reinforce the other's activities.

In some cases, it may prove desirable to assign a

project manager to a special marketing or sales

effort. I suggest that initially such project

management resources be drawn from the regular

department. This will allow the maximum cross

fertilization to be gained across work phases, and

gives the PM group an early insight into prospects

that ultimately may become full profit programs.

A close relation between sales and the PM group will

generate helpful feedback between sales and other

departments. This feedback is often needed to

keep both the functional groups and the sales

group informed about what is happening at Strand.

In addition, all members of the Strand staff should

be considered ex officio members of the sales and

marketing department. The basic profile for

identifying worthwhile projects and prospects

should be established as a part of an ongoing

market effort. This profile should be understood

by the functional and project management staff

so all at Strand are working toward similar

marketing and sales goals.

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Q. Recommendation: That project management be especially
    charged with generating healthy interaction between
    functional groups.

    Discussion: The project manager is a key individual
        in insuring that all functional groups are working
        at top performance. Generation of healthy, nondestructive
        competition between functional groups can often be
        a method by which a project is changed from fair to
        good to excellent.

        Since project management has direct access to top
        management, the position PM's occupy is significant,
        and carries with it a responsibility to insure that
        all functional groups perform well. Stimulation of
        competitive and comparative excellence among
        functional groups is an important responsibility of
        the project manager.

R. Recommendation: That a company-wide glossary of terms
    be prepared and maintained to help all staff members
    speak a common project language.

    Discussion: Throughout our management work at Strand
        we have seen a constant need to define terms.
        Continued rediscussion and rediscovery of these
        terms causes confusion and loss of momentum that
        detracts from prime efforts. Therefore, one of the
        early jobs in implementing a project management
        system will be to prepare a glossary of terms so

a clear-cut understanding is had by all of what each
term means when used within the Strand organization.

Accompanying this report is an example of a glossary
of terms. All are not applicable to Strand (for
instance, goals and objectives) but it may furnish
a good beginning point for a Strand dictionary.

Publishing such a document may appear somewhat
immature managerially, but it certainly would go
a long way toward insuring that communications are
more clearly effected, and that misunderstandings
are minimized.

The best way I have found of proceeding with such
a system is to abstract from spoken conference
material and company-related reports words about
which there appear to be differences of opinion
relative to their meaning. As an awareness of the
need for definitions continues, this word list can
be expanded. As each word it added, it will be the
responsibility of upper or middle management to
define the term and gain acceptance of the definition.

S. Recommendation: That a common, unified project planning
system (CPM) be adopted as a standard requirement   Ⓑ
for use by the project management staff.

Discussion: Network models have been found effective at
Strand because they forced those involved to reduce

abstractions to specifics through translation into
a stated work sequence. The benefits of network
modeling and the value of its use as a planning
tool have been seen time and time again at Strand,
so there should be little, if any, difficulty in
implementing the system among the project management
staff.

As part of the program of planning, data processing
techniques should be brought into use that tie
together the various elements of the project. This
will require careful study and attention in conjunction
with the data processing department. The job we face
in the near future is selecting the most appropriate
of the many programs available and knitting them
together into a workable planning, and monitoring
system.

Use of a standard planning technique at the functional
level (as compared to the project level) is also
important and should be encouraged by top management
and project managers.

T. Recommendation: That project managers be given both
central and local data processing capabilities.

Discussion: The electronic data processing capabilities
the Strand company has are enormous. A project manager,
to do his work well, will require interfacing with the
entire project operation cutting across functional
boundaries at all times. This, of course, requires

that data on a company-wide basis be accessible
to him and he, in turn, must be able to input into
this company-wide data program. In addition, there
will be local and individual needs by the project
manager for data processing capabilities to help
in his own day to day work. This need may require
processing data that is of little or no interest
to the total staff at Strand. The PM should be able
to build for his own project purposes specialized
programs that provide him various data assemblies
as he needs them and in a format that is of most
use to him.

I suggest that, as a part of the PM implementation,
data processing be involved in a survey of project
management needs to establish how the PM system can
make most effective use of data processing tools
available now and in the future.

U. Recommendation: That a project reporting system be
implemented through project management, that serves
all components of the organization.

Discussion: At Strand there is currently little evidence
of formal management intercommunication. Seldom
does middle management meet either among themselves
or with upper management except on an on-call
basis. Neither does upper management meet with
each other to review decisions and work except
under unusual conditions, or again, on-call.

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Well organized, well managed meetings and reports
are an important part of any successful project
system. A reporting system should not become
overbearing, bulky, or unmanageable. It must be,
as is the project organization, built to serve the
needs of the project and the company.

Meetings for meetings sake are wasteful. Meetings
to improve performance are essential. The same
can be said about reports.

V. Recommendation: That Strand, through the project
management system, improve tracking of the financial
profit status of each project.

Discussion: Presently there are reasonably careful
evaluations made of the financial position of each
project as it proceeds through various work phases.
I suggest that project management be deeply involved
in such financial tracking to insure that trends
toward erosion of the expected profit on a job
be identified early and corrective action taken.
Probably much of what is presently being done in
the tracking system can be transferred into this
new effort. Nevertheless, it will require careful
attention and full support from top management
to become effective.

How the profit is measured either by actual dollars
or by labor/hour analysis can be established as

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the tracking system is developed. Mr. Thomas

and Mr. Hedke are particularly well equipped to

work in these areas, and the generation of a

tracking system should prove relatively simple with

the present Strand resources available.

W. Recommendation: That project management be encouraged

and expected to stimulate a sense of excitement for

the future of Strand by setting an example of

performance excellence.

Discussion: Enthusiasm for the future of Strand is

presently running high among top management. Bringing

a PM program on line should reinforce this excitement

and generate a creative thinking potential that will

be good for everyone in the company.

Although it may be assumed that project management

would do this, as a routine part of their work, I

suggest they be given a special charge to insure

the transfer of excitement, and desire for high

quality performance is transmitted across phase lines

and divisional lines. There is no one better

positioned than the PM to do this.

D. CONCLUSION

The above 23 recommendations and the suggested methods of

implementing them are only a beginning. From our discussions

of them should emerge a specific model of action to be

followed over the next year at Strand for bringing a full

project management system on line. It will not be easy,
and I anticipate that particular difficulty will be found
in properly staffing the program.

Also, it is essential to the proper functioning of any
management system that an adequate flow of work be generated
upon which the system can be used. This means that with
the present slow market condition project management may
also have to become an integral part of the forerunner
and the sales and marketing effort. This involvement is
healthy in the sense that it will give the emerging project
management staff an opportunity to become aware of their
importance in the marketing and sales efforts of Strand.

I believe that a proper implementation of a well conceived
project management method will pay dividends to Strand
over the coming years. Great improvements and advancements
have been made at Strand in the past, and what is needed
now is a method by which this entire organization is better
interconnected and bound together so it works effectively
to do what it is best at. It is important, however, to
remember throughout this very critical stage in Strand's
life that the project management system be capable of
proving it does pay its way. This can best be accomplished
by taking great care with the staffing of the department
and by establishing a comprehensive educational and
training program that insures top performance by all managers.

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It has been a pleasure working on this study, and I wish
to thank those that have helped in its preparation.
Especially I wish to thank Mr. Lee Thomas for his
ideas, concern, and direction in preparing the work
phase matrix. It has proven invaluable in our analysis
of the project management approach and contains a wealth
of good information that should be of great help in
PM implementation.

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RJS:sps

Attachments