

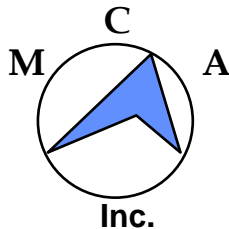
Middle Management & Project Management Symposium

Report

Sheraton Denver West
Denver, Colorado

November 14, 2005

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**MCA Symposium
November 14, 2005**

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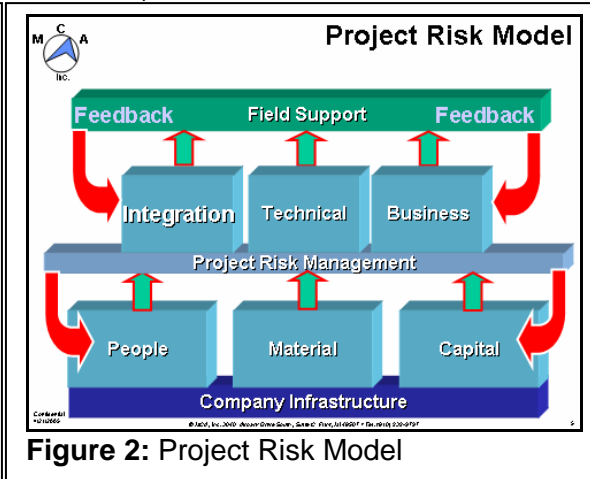
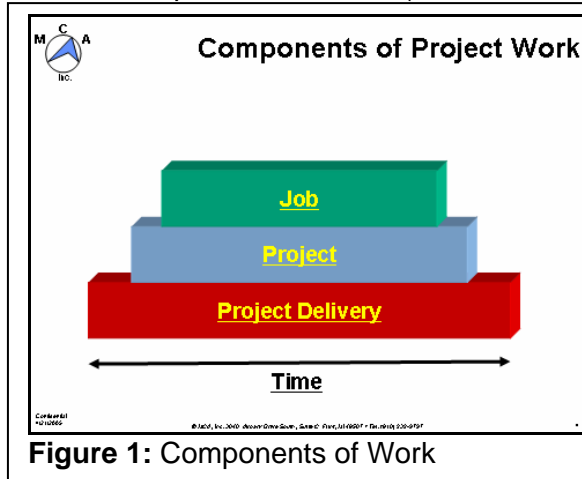
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Recap from April

The components of work for a Project Manager can be broken down by project delivery, project, and job (**Figure 1**). The project delivery items include everything from estimation to closeout. The project items include everything that is needed to complete the project (invoices, submittals, schedule, labor, material, purchase orders, bonding, etc.). The job items include everything that is needed to perform the work (material, labor, tools, etc.).



Each of these components of work entails risk. **Figure 2** shows a model of project risk and how it can be managed by the project manager. The risk is divided into business, technical, and integration risk.

The 3 M's: Manpower, Material, and Money

Manpower, Material, and Money are the three elements of a project management that project managers deal with. Foremen deal with manpower and material only. This session focused on Manpower and included discussion on productivity, job responsibilities, closing the loop with JPAC (interpreting and feeding information back to estimation), manpower movement allocation, and manpower training.

The participants brainstormed in teams about the types of personnel issues they deal with as project and mid-level managers.

Brainstorm: what personnel issues are we faced with?

- Self motivation or lack of it
- Baggage that people come with
- Cultural
- Loyalty (union v. company – especially when coming into the company)
- Generation gaps
- Mode of survival
- Knowledge & education of the person
- Ability to adapt to situations
- Individual's goals in life
- Ego v. someone that needs to be comforted
- Personalities
- Experiences
- Perks & benefits (who gets what, jealousy, pecking order)

- Communication
- Listening – getting them to understand
- Creativity (or not being “too creative”)
- Tools (hand & mental tools)
- Availability of properly trained people
- Unmotivated individuals (say they want to do it, but aren’t on board when there are changes)
- Portability
- Cultural integration
- Acceptance of modern technology (laptops, etc.)
- Accepting more responsibilities
- Resistance to accountability
- Personalities (and the intermixing of them)
- Sense of lack of control (especially during change, rumors, negative feelings, etc.)
- Resistance to change (done it the same way for years...)

Productivity

Many tools exist for measuring and tracking job production (work put in place); however, JPAC is the only tool that measures productivity. The group brainstormed on the difference between production and productivity:

Production	Productivity
What did you do	How quickly you did it
Could be production of wrong thing	Production of the right thing
End result	Effectively using the resources
	Sum of everything “produced” – how it comes together

Brainstorm: Are these job or project issues?

- Lack of planning
- Coordination
- Field’s job = get it installed
- PM’s job = make sure installed correctly / productively
- Pre-planning (short v. long term)
- Who sees the issues on the jobsite (PM, super, FM) and how is it communicated
- Foremen see these issues as “normal” (part of the job) – they are trained that way (NECA units account for 40% “unproductive” time)
- Opportunities to work with vendors to avoid
- Get paid for production, profit comes from productivity
- Getting caught on the vendors’ promise of “better productivity”
- Manager’s job = managing ambiguity

JPAC

System productivity, not individual productivity, is what JPAC measures. The system productivity takes into account all components of project work (the project delivery, the project, and the job). Individual productivity measures only the installation time – the production.

Comments from JPAC users:

- o Takes time to get the tool setup
- o Sometimes it’s not the tools that are wrong, it’s how you measure and what you measure
- o Cost codes historically built around installation, not measurement of the entire system
- o Critical to get the guys in the field to report it properly – Garbage In Garbage Out

Brainstorm: What are good cost codes?

- o Supervision / job coordination
- o Boxing
- o Trimming
- o Mobilization
- o Conduit – 1 ¼ and up
- o Conduit – Below 1 ¼
- o Wire – large
- o Wire – small
- o Distribution
- o Fixtures
- o Demobilization
- o Temp power
- o Safety meeting
- o Prefab
- o Testing
- o Material handler
- o MC Cable
- o High voltage (> 600V)
- o U/G Conduit
- o Fire alarm
- o Punch list
- o Trenching

Brainstorm: What is the difference between running a job and project management?

Job	Project
On-site responsibility	Bulk material purchases
“Nuts & bolts”	Company management
Coordination / install	Submittals
Sharing hours	Budget
Large projects share \$\$	Profitability
Management of production	System productivity
Jobsite operations – material, tools, manpower, safety, change order identification	Contract management
Opportunities	Financial
Documentation	Scheduling
Short term plan	Manpower
Initial JPAC setup	Budgeting
Means & methods – product installation, material, labor, tools	Sub-contract management
Initial problem solving – short interval	Billings / collections
Production	Change order management
Adequate – trained manpower	Labor understanding – budget
Tools	Managing resources – timing
Material	Productivity
Reporting – proper daily look ahead, meetings	Schedule
Production	Budget
10 – 14 days look ahead – plan only 2 weeks, visualize 3 days	Change orders
	Relationships
	Analysis of data
	Cash management
	Liaison
	Field-to-customer
	Office-to-field

Brainstorm: What are your thoughts about the list above?

- New ideas to think about /try
- As a company, we need to align on these items
- Some flip-flopping between locations
- Lists are good – how do we make the changes where they need to be made?
- Need the office support

- The job is visible, the system is not
- Important for PM to show FM his (PM's) role
- Productivity on the job is more than just the jobsite
- We do all of the "job" items as PM's

As Project and Mid-Level managers, we get caught between the job and project and many times end up doing the "job" work, restricting our capacity for profitable growth.

Clarification of Job Responsibilities

Brainstorm: What should be the field supervisor's responsibilities?

- o Coordinate foreman tasks
- o Generate individual efficiencies
- o Liaison to avoid "over the wall"
- o Take history / JPAC management (including setup and input into the system)
- o Need to be closer to the work
- o Personal responsibility
- o Loyalty – with company or with field?
- o Manpower
- o Responsible for Foreman following his process (overseeing timesheets, reports, etc.)
- o Know all jobsite responsibilities plus what the Project Managers need to know about the job

Closing the Loop with JPAC: Interpretation and Feedback to Estimation

JPAC is the earliest indicator of how a job will go. We are all using JPAC with this function; however, JPAC has power beyond just any single job. It can be used to understand more about the company, cost codes, and project delivery system. For example, **Figure 3** shows that JPAC data (independent of the company or type of work) correlates with the job profit.

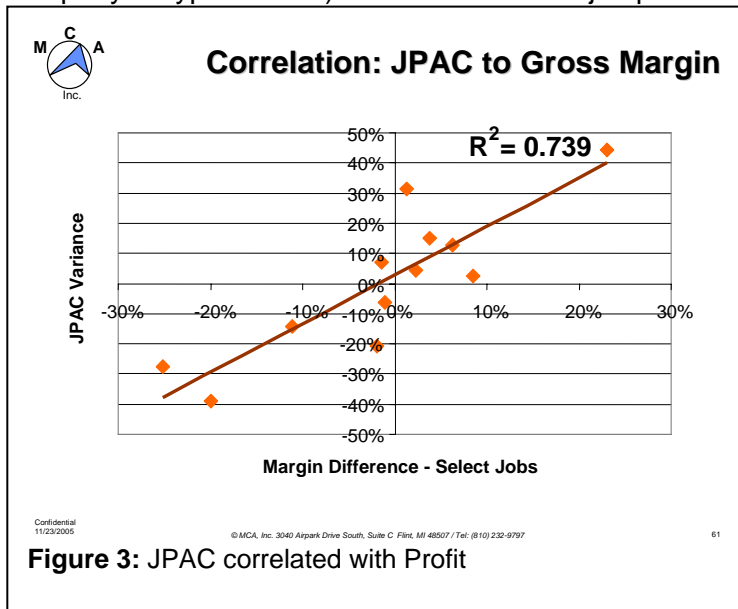
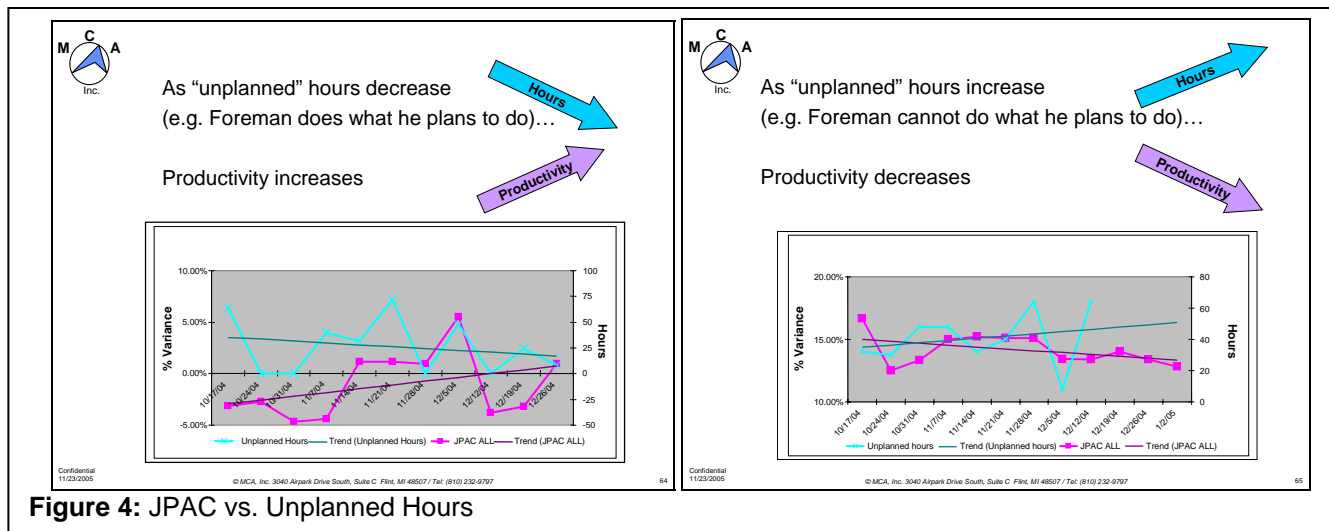


Figure 4 shows how JPAC has been used in conjunction with Short Interval Scheduling to measure the impact of unplanned work on the job's productivity.



Manpower Allocation

Brainstorm: How do we allocate our manpower and who does it?

- PM (chosen by GM or involved from original estimate)
- Superintendent handles changing manpower needs (communicates with FM)
- Job cost reports
- Manpower curve
- JPAC
- Look ahead / short interval schedule
- Select #2 guy (FM)
- Superintendent (data shared from estimate so he doesn't go in blind)
 - o Advantage:
 - Pay attention to relationship / how crews work together
 - PM doesn't have to look at manpower
- Transfer of manpower – let other PM's / division manager know (weekly meeting)
- Email of manpower needs or availability
- Foreman deals with the hall
- Service may get manpower from guys that otherwise would be sent back to the hall

Manpower Training

Brainstorm: What should foremen be trained in?

- | | |
|---|--|
| <ul style="list-style-type: none"> - Read schedule - Fill out form - Solving problems - Make decisions - Motivational techniques - People skills - Productivity enhancements - Read drawings - Communications - JPAC / earned value - Pre-task planning - Value engineering - Team dynamics - Role training – how to be a training, what is it about - Understanding scope & documents | <ul style="list-style-type: none"> - How to look at the big picture - Documentation – what, how, why - Basic business training - Purpose: to make profit - Principles of PM – train them for the job above them - Computer / technology skills - Look ahead process - OSHA safety training - Material management - Production reporting - Extra work tracking |
|---|--|

Next Session

The topic for the next session will be **Money**. The group suggested the following topics for discussion:

- How much budgetary information to share and how far
- Cash flow
- Field incentives
- Under & over billings
- Compensation structure
- Bonding / insurance
- Line of credit
- Receivables
- Equity / ownership structure
- Pricing change orders
- Project incentives
- Billing cycles
- Market trends
- Pricing strategy
- Effects of schedule creep
- Impact of change
- What you can charge for a change order

Suggested Location: Las Vegas, Nevada

Suggested Dates: April 24th – April 25th, or May 1^s – May 2nd, 2006

*We will work on setting up a trip to Mojave Electric as part of the session as well.

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