

Successfully Implementing Project Controls Systems - Lessons Learned Through Industry Analysis

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QUESTIONS AND COMMENTS!**



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Author Biography: Julie K Owen



- Degree:
 - **MBA, Business Administration**
University of Redlands
 - **B.S., Construction Management,**
Texas A&M University
- Years of Experience:
 - **20+**
- Professional Field:
 - **Project Controls**
 - **Something you do not know about me:**
 - **I implement project management systems at LA Metro**

INTRODUCTION

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- **FACT:**
 - **Increased Global Competition**
 - **Increased Technology Innovation**
 - **New software systems are common**
- **CHALLENGE:**
 - **50% of software projects fail**
 - **67% of organizational changes fail**
- **WHY CHANGES FAIL:**
 - **Human resistance**
 - **Lack of change management strategies**

Human Consequences of Change



- Dissatisfied
- Frustration
- Obstruction
- Resistance
- Talent flight
- Loss of experience
- Burnout
- Stress
- Destruction



Why do people resist change?



- Loss of authority or control
- Fear change creates more work
- People generally do not have open minds
- Seasoned employees fearful to level playing field with less experienced peers



TECHNICAL PAPER BASIS

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- WHAT DO THE EXPERTS SAY?
 - **Analyze Change Management Strategies**
 - **Summarize Leading Industry Research**
 - McKenzie Center for Global Performance
 - John Kotter, Harvard Business Review
 - Dr. Paul Dorsey, Harvard Business Review
 - International Journal of Accounting Research
 - Computer Business Review



Change Management Success Factors

Establish Clearly Defined Scope

Secure Executive Sponsorship

Communicate Clear Vision

Obtain Stakeholder Buy-in

Implement Effective Leadership

Follow Change Management Process

Provide In-Depth Training

Overcome Resistance to Change

Tailor Change Management to Size of Change



Industry Analysis Background



- Use Industry analysis to prove hypothesis
- Analyze the pros and cons for project control systems implementations
- Various Software Systems
- Global Analysis
- Multiple Industries
 - **Power**
 - **Petrochemical**
 - **Aerospace**
 - **Commercial**
 - **Public Works**
- Past decade



INDUSTRY EXAMPLES

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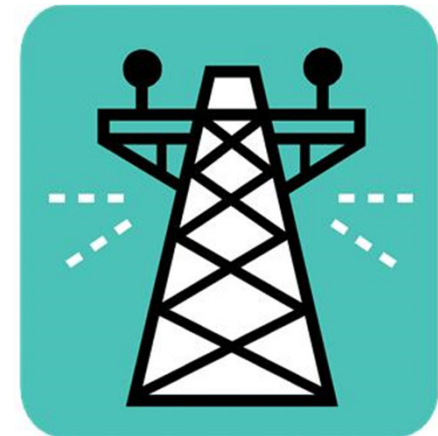
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Industry Example – Utility/Power



- US West Coast consultant - project management, project controls systems implementations. Planning, scheduling, project management, cost management systems.
- Four different projects over four years. Two very successful.
 - **Golden nuggets:**
 - **Management knew what they wanted.**
Defined requirements.
Established success criteria.
 - **Conflict management embedded**
Resistance managed quickly
 - **Great SME and communication**
People knew what was happening,
why, and how the system would be used
 - **Managed in-house/out-house resources**



Utility/Power – Success/Challenges



Success Examples

- Clear vision from sponsor
- Defined requirements
- Executive management support
- Solid Technical Leadership
- Strong conflict management
- Proactive communication
- Staff augmentation
- Transparency through reporting
- Role based training



Shared Challenges

- Inadequate resources
- User resistance
- Undefined requirements
- Entrenched fractured corporate culture
- Lack of system ownership
- Access to information
- Lack of trust and poor communication
- Hidden agendas and corporate silos

Industry Example - Petrochemical




- Global Petrochemical EPC firm
- Enterprise cost management system over two years
 - **Budgets, commitments, expenditures and hours across seven interfaces**
- Implemented world-wide across all eight business units
 - **Golden Nuggets:**
 - **Proof of concept required**
 - **Limit initial stakeholders (No scheduling)**
 - **Began on two most visible projects “Big Win”**
 - **Great communication and use of steering and sponsor committees**
 - **System tied to corporate goals and also employee performance**



Petrochemical- Success/Challenges



Success Examples	Shared Challenges
<ul style="list-style-type: none">•Executive management sponsorship•Clearly defined requirements•Defined success criteria•Solid technical leadership•Good communication strategies•Phased implementation ‘big win theory’•Staff empowerment with goals tied to their performance•Transparency through reporting	<ul style="list-style-type: none">•Scalable solution strategies•Staff resistance to change  <p>A photograph of a petrochemical plant. In the foreground, there are large, horizontal, light-colored pipes. In the background, several tall, vertical storage tanks or distillation columns are visible against a clear blue sky. The ground appears to be a mix of dirt and gravel.</p>

Industry Example– Contractor Estimating




- Construction Contractor
- Automated Estimating System
- Project Failed
 - **Golden Nuggets:**
 - **Project accelerated immediately**
 - **Out of the box functionality demanded**
 - **Two competing departments not cooperating**
 - **Seasoned estimating staff not interested**
 - **Did not incorporate historical costs**
 - **Loss of key talent**



Contractor Estimating - Success/Challenges

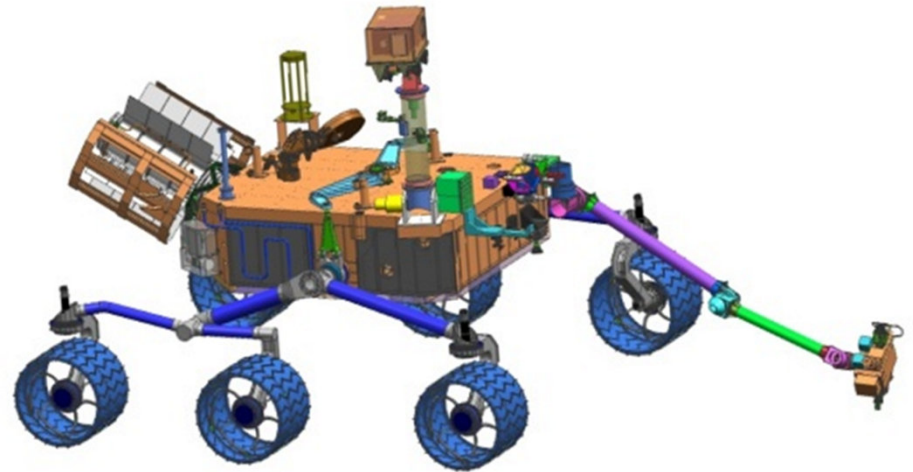


Success Examples	Shared Challenges
<ul style="list-style-type: none">• Executive support  A yellow tape measure is extended across a white clipboard. A blue pen and a red pencil are also visible on the clipboard.	<ul style="list-style-type: none">• Lack of sponsor support• Poorly deployed resources• Access to information• Unreasonable expectations• Lack of training• Resistance to change

Industry Example - Aerospace

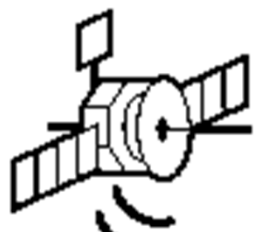


- Aerospace Research and Development Firm
- New NASA Contract ANSI EIA 748 Standard
- Required Compliant Earned Value Management System
- Seven year implementation
- Project Success
 - **Golden Nuggets:**
 - Requirements development and procedures required
 - Resistance offset by audit compliance



Aerospace R&D - Success/Challenges



Success Examples	Shared Challenges
<ul style="list-style-type: none">• Client mandated contract requirement• Executive management sponsorship• Clearly defined requirements• Comprehensive training program• Audit based compliance Strategy	<ul style="list-style-type: none">• Inadequate resources• Unskilled workforce• Staff reluctance to use new technology• Entrenched corporate culture 

Industry Example – Commercial UAE



- Master Development Project in United Arab Emirates
- Integrated project monitoring and control system
 - **Enterprise scheduling, dashboard reporting, email alerts**
- Two years on mega project
- Project Failed
 - **Golden Nuggets:**
 - **Communication breakdown**
 - **Heavy dependence on implementation consultant**
 - **No system ownership**
 - **Lack of motivation**
 - **Lack of leadership**



Commercial UAE - Success/Challenges



Success Examples

- Strong Executive Management Support
- Industry Leading Implementation Consultant
- Comprehensive Hands-on Training



Shared Challenges

- Undefined requirements
- Poor Communication
- No Clear Vision
- Lack of Middle Management Buy-in
- Undefined Roles and responsibilities

Industry Example – Public Works Qatar



- Web-based project monitoring system in Qatar
 - **Project management, scheduling, cost management, and custom utilities**
 - **Enterprise implementation across multiple departments**
 - **Six year implementation**
- Project Success
 - **Golden Nuggets:**
 - Time required at beginning to develop procedures and requirements
 - Custom utility added for small contractors



Public Works Qatar - Success/Challenges



Success Examples	Shared Challenges
<ul style="list-style-type: none">•Executive Buy in•Clear Vision•Defined Scope•Adequate resources•In Depth Training•Expert Implementation Consultant•Clear Communication•Well Defined Roles and Responsibilities•Stake Holder Buy-in	<ul style="list-style-type: none">•Vast Scope and number of departments and projects for implementation•Beginning inadequate procedures•Availability of technology and resources with small contractors

LESSONS LEARNED

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Lesson 1: Executive Sponsorship



- Executive Sponsorship is Critical
 - Engage Personnel at all Levels
 - Facilitate Ownership and Buy-in
 - Establish Sub-Committees / Communication Strategies
- Embed Conflict Management Strategy
 - Identify Barriers and Navigate Delay Tactics
 - Deal with Conflict and Concerns Quickly
- Tailor the Size of the Change
 - Implement Phased Implementation
- Conduct Regular Progress Meetings
 - Facilitate Growth and Communication
- Identify Pockets of Resistance
 - Redeploy Personnel When Necessary



Lesson 2: Communicated Vision



- Clear Communicated Vision
 - Know the What, Why and How
 - Communicate the Vision
 - Energize the Team with the Vision
- Need Defined Requirements
 - Establish Success Criteria
 - Identify Short and Long Term Goals
 - Measure Performance and Publicize Successes
- Establish Transparency and Visibility
 - Tie Corporate and Employee Performance to Goals
 - Promote Accountability
- Reward Innovation
 - Recognize Change Champions and Promote Cultural Change



Lesson 3: Technical Leadership



- Identify and Engage Experts
- Understand Requirements
- Manage System Architecture
- Balance Cost, Quality, Speed, Risk
- Identify Roadblocks
- Communicate Risks and Challenges
- Measure Progress Toward Goals
- Communicate Success
- Facilitate Continuous Improvement



Lesson 4: Role-Based Training



- Comprehensive Training Required
- Hands-On Training Best
 - **65% retention rate for hands-on**
- Tailor Training to Job Position
 - **Learn by Doing**
 - **Facilitate Practice**
- Empower Staff Proficiency
 - **Identify Champions**



Lesson 5: Adequate Resources



- Provide Skilled Resources
- Need experienced people; champions, management sponsorship, and facilitators
- Create the Critical Mass of Leaders
- Engage Frontline Employees in Process Improvement
- Augment Staff When Necessary
- Balance In-House (Tribal Knowledge) and External Consultants (Industry Best Practices)
- Identify Pockets of Resistance
- Redeploy personnel in more productive positions



Lesson 6: Change Management Strategies



- Initiator
 - **Who initiated the change?**
 - **How was it provoked?**
- Facilitator
 - **Who is the facilitator?**
 - **Look for internal facilitators, if possible**
- Champions
 - **Utilize and promote champions**
 - **Sustain enthusiasm about positive changes**
- Sponsor
 - **Look for executive sponsorship**
 - **Officer responsible for change**



Lesson 6: Employ Change Management Process



- Secure Executive Sponsorship
- Define the Change and Include a Change Story
- Establish Clear Requirements / Success Criteria
- Define Team Members and Goals
- Create a Communication Campaign
- Track and Measure Progress Toward Goals
- Embed Hands-on Training
- Manage Pockets of Resistance
- Tie Goals to Corporate/Individual Performance
- Anchor the Change in Organization
- Promote Continuous Improvement

CONCLUSION

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Conclusion Summary



Success Factor	IE#1	IE#2	IE#3	IE#4	IE#5	IE#6
Overcome Resistance to Change						
Clearly Defined Scope						
Executive Sponsorship						
Stakeholder Buy-in						
Effective Leadership						
Effective Change Management Process						
Clear Vision						
Effective Communication						
In depth Training						
Tailor Change Management to the Size of the Change						
End Result						



No



Partial



Yes

Conclusion



- Globalization Increases Competition
- Change is Constant
- People are naturally resistant to change
- Change statistics favor project failure
- Successful change requires strategic thinking and evaluation
- Move past obstacles and Keep moving forward

