Why Reinvent the Wheel: Standardizing Your Processes and Procedures for Measurable Improvements

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e-Builder

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Director of Field Services
DLZ
Example of a Pay App Process

This is an example of how we build a payment application process based on your requirements – we then map this same process.
Defining Standard Operating Procedures

Instructions for fulfilling the objectives, procedures, and methods for

- Planning
- Design
- Construction administration and inspection

1. Inspector’s daily reports
2. Safety
3. Time tracking
4. Change orders
5. Submittals
6. RFIs
7. Payment applications
Achieving consistency ensures that processes can be constantly measured and improved to achieve ________________

- Meeting safety goals and standards
- Doing more with available resources
- More predictable outcomes (favorable) and fewer surprises (unpleasant)
Key Performance Indicators

Pittsburgh Water and Sewer Authority
Application for Payment
Reduction in time to process Vendor Payment and Invoices
1. 59% improvement in invoice processing time
2. 44% in Vendor Payment time

Illinois Tollway
Application for Payment
2,500 hours expanded
6,000 pays app per year
$100/hour to process
Resulting in $250,000 savings/year
Trends In Capital Programs

Rapid Construction Growth
Stakeholder Pressure
Evolving Delivery Models
Silo’d Approach To PM
Exponential Data Growth
Increasing Regulatory Complexity

Design-Bid-Build
Capital Funding Demands
Des-Del Model
Decreasing Funding
Monetization Management
Consulting Firms
Mid-Market
Risk Contracting
CM At-Risk
Integrated Project Delivery
Public-Private-Partnership

CAPITAL PROGRAM MANAGEMENT

• Design-Bid-Build
• Capital Funding Demands
• Des-Del Model
• Decreasing Funding
• Monetization Management
• Consulting Firms
• Mid-Market
• Risk Contracting
• CM At-Risk
• Integrated Project Delivery
• Public-Private-Partnership
Collaboration is an Imperative
Phase-Centric Approach Impacts Performance

Information loss at each stage of project
Owners experience this, not contractors

Information Value

Planning Design Procurement Construction Operation

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And The Data Tells The True Story

STUDIES SUGGEST:

85% of Owners Reported Projects That Exceeded Budget
92% of Owners Reported Projects Exceeding Schedule
63% of Owners Reported Projects That Had Quality Deficiencies

CLICK FOR FULL REPORT
Top Owners Out-Perform Others

Performance Tiers

- Comparing top-performing and lowest-performing groups of owner organizations in terms of schedule and budget performance

Top-Performing Owners
- At least 25% of their projects were completed ahead of schedule, AND...
- At least 50% of their projects were completed under budget

Lowest-Performing Owners
- 50% or more of their projects were completed behind schedule, AND...
- 25% or more of their projects were completed over budget

28/174 (16%)
9 Secrets of Top-Performing Owners

Key Findings: People and Policies

Biggest differences between top-performing and lowest-performing organizations for use of specific practices related to stakeholder engagement, nurturing of talent, organizational culture and performance measurement.

Key Findings:

- Clearly defined job roles in the organization: 50% of top performers vs 79% of lowest performers.
- Clear and consistent communication of vision and purpose from leadership: 43% vs 64%.
- Effective at internal stakeholder engagement: 29% vs 50%.
- Formal training and development program: 18% vs 43%.
- Employee incentives tied to project performance: 11% vs 32%.
9 Secrets of Top-Performing Owners (cont.)

Key Findings: Processes and Technology

Biggest differences between top-performing and lowest-performing organizations for use of specific practices related to standards, technology and performance measurement.

- Highly innovative regarding the use of technology: 43% Top-Performing, 68% Lowest-Performing
- Standardized and consistent construction process and communication across projects: 50% Top-Performing, 68% Lowest-Performing
- Project performance is frequently measured: 50% Top-Performing, 64% Lowest-Performing
- Use of a project information management system: 36% Top-Performing, 50% Lowest-Performing
Technology Enables MANY OF THESE

Collaboration

Stakeholder Engagement

Program Performance Measurement

Standardized & Consistent Process

Common Project Management Information System (PMIS)
In Favor of Experience

How do you get all of these benefits in the least possible time, basing your process definition on proven factors (history and experience) from someone who has done this 100X?
e-Construction is a paperless construction administration delivery process that includes electronic submission of all construction documentation by all stakeholders, electronic document routing/approvals (e-signature), and digital management of all construction documentation in a secure environment allowing distribution to all project stakeholders through mobile devices.

e-Construction Examples

- Transfer of electronic plans and electronic contract specifications and special provisions.
- Mobile devices, software and applications for field inspection and data collection.
- Data hosting services (data clouds, share sites, virtual review rooms).
- Electronic review and approval processes (digital signatures/reviews).
- Communications tools (e-mail, text, social media, smart phones).
- Radio frequency identification (RFID) tags for resource tracking.
- Asset management, electronic as-built drawings and quality assurance records.

• We know what it is and have examples of how it can be used to save time and money, but why are so many owners and consultants still in the infancy stage? Not willing to commit to constant refinement of processes.
Best Practices – DLZ Stages of Implementation

Three years after implementation

1. Project Needs (forms)
2. 100% Electronic Documentation
3. All Processes – Not Just Projects

Best-in-Class Organizations

Proactive vs. Reactive
Automate to Operate
Relentlessly Improve
Project Safety Plan – Process Safety Checklist – Form JHA/JSA – Form (daily report integration)
Best Practices - Forms

Client Forms
# Best Practices - Forms

<table>
<thead>
<tr>
<th>Form Types - Internet Explorer</th>
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<tbody>
<tr>
<td>*ODOT C-85 Final Estimate Letter</td>
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<td>*ODOT C-85-Final</td>
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<tr>
<td>*ODOT C-85-LPA: District Construction Inspection Report</td>
</tr>
<tr>
<td>*ODOT C-85-Partial</td>
</tr>
<tr>
<td>*ODOT C-85-Punch List</td>
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<td>*ODOT CA-C-1</td>
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## Best Practices - Forms

### Equipment Details

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Options</th>
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<tbody>
<tr>
<td></td>
<td>A Owned/Bid Work, B Rented/Bid Work, C Owned/Non-Bid work, D Rented/Non-Bid work</td>
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<tr>
<td>Hours Used</td>
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<tr>
<td>Hours Idle</td>
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<tr>
<td>Year</td>
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<td>Type</td>
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<tr>
<td>Model</td>
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<tr>
<td>HP, GVW, Capacity</td>
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<tr>
<td>Gas/Diesel/Electric</td>
<td>Gas Diesel Electric</td>
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<tr>
<td>Lifting, Hauling or Bucket Capacity</td>
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</tr>
<tr>
<td>Mounting</td>
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<tr>
<td>Equipment No.</td>
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# Best Practices - Forms

## DAILY REPORT OF FORCE ACCOUNT WORK

**Contractor:**

**Subcontractor:**

**Work Description:**

**Reason for F.A.:**

1. [A] Owned Equipment – On Project (Bid Work)
2. [B] Rented Equipment – On Project (Bid Work)
3. [C] Owned Equipment – Brought to Project (Non-Bid Work)
4. [D] Owner Equipment – Brought to Project (Non-Bid Work)

### Labor and Equipment

<table>
<thead>
<tr>
<th>Name</th>
<th>Class</th>
<th>Reg-Hrs</th>
<th>OT Hrs</th>
<th>AJL C/D</th>
<th>Hours Operd</th>
<th>Hours Idle</th>
<th>Year Mgr</th>
<th>Type</th>
<th>Model</th>
<th>H.P. Size or CYDN</th>
<th>Gas, Diesel, Elec</th>
<th>Lifting, Hauling or Capacity</th>
<th>Mounting</th>
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### Material

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<thead>
<tr>
<th>Qty.</th>
<th>Unit</th>
<th>Description</th>
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**Contractor Signature**

**Title**

**Date**

---

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Best Practices - Processes

Cost Process - integration
### Best Practices - Processes

#### Invoice Items

<table>
<thead>
<tr>
<th>Commitment Item #</th>
<th>Description</th>
<th>Unit Cost</th>
<th>Unit of Measurement</th>
<th>Quantity</th>
<th>Invoice Amount</th>
<th>Retainage %</th>
<th>Retained This Inv...</th>
<th>Cost...</th>
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</thead>
<tbody>
<tr>
<td>001</td>
<td>201 - Clearing and Grubbing</td>
<td>28,713.15</td>
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<td>202 - Headwall Removed</td>
<td>551.50</td>
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<td>004</td>
<td>202 - Walk Removed</td>
<td>896.60</td>
<td>SF</td>
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<td>8.00 %</td>
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<td>202 - Special - Fill and Plug Existing Conduit</td>
<td>26,320.80</td>
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<td>012</td>
<td>202 - Valve Box Removed</td>
<td>3,924.00</td>
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<td>013</td>
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#### Total

<table>
<thead>
<tr>
<th>Commitment Details</th>
<th>Invoice Amount</th>
<th>Retainage %</th>
<th>Retained This Inv...</th>
<th>Cost...</th>
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</table>

**Note:**

All cost data must have "source" measurement documentation attached in the "Attached Documents" tab.
Best Practices - Processes

Time Tracking

- Daily Report Integration
- DLZ Review
- Client Approval
- Report for Invoice Generation
- No Revisions!
Best Practices - Processes

Project Startup
- Control Form (Accounting System)
- PMP
- RMP
- Safety
- Kickoff (Internal & External)
- Prime Contract
- Subcontracts
- Certificates of Insurance
Concrete Testing

- Field Test Reports
- Cylinder Tickets
- Lab Testing Reports
- Review
- Client Deliverable
In Summary

- Find opportunities to leverage your existing best practices as a value-added service to clients
- Leverage the existing Cloud-based technology as a vehicle to transfer those best practices
- Focus on automating processes and continual improvement (Relentlessly Improve)