Risk-Adjusted Estimating & Bid Management for General Contractors

Laura Watts
Manager, ACS Customer Success
Laura Watts

- Joined BuildingConnected in early 2019 as a Customer Success Manager focusing on helping general contractors enhance their preconstruction and prequalification workflows.
- Previously, spent the last 6+ years working in a variety of roles focused on the customer experience for software companies.
- Developed a strong passion for helping customers understand how innovative technology can help solve their problems and have a positive impact on their business.
- Has helped over 100+ general contractors implement Autodesk Construction Cloud solutions across their organizations and specifically, over 50+ TradeTapp customers.
The importance of connected construction

Digitize
Integrate
Optimize
## Connected workflows in construction

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<tr>
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**Insight**

- **Predictive Analytics & Risk Management**
  - Predictive Analytics · Benchmark Reports · Mitigation Strategies

**Network**

- Builders Network
Connected workflows in construction

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- Bid Management
- Qualification

**Predictive Analytics & Risk Management**
- Predictive Analytics
- Benchmark Reports
- Mitigation Strategies
The million-dollar question:

"Why is estimating so difficult?"
<table>
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<th>20% of projects overrun their timeline</th>
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<td>80% of projects are over budget</td>
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<tr>
<td>31% of all construction projects from The past 3 years have been completed within <strong>10% of their initial budget</strong></td>
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<td>COVID 19 related layoffs &amp; increased safety precautions</td>
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<td>General labor &amp; supply chain shortage trends</td>
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<td>Devastating weather conditions</td>
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Mckinsey 2016 Study: Imagining Constructions Digital Future
KPMG 2015 Global Construction Survey
Top challenges & technology investments

**Challenges**
- Lack of effective technologies/outdated technologies
- Project scheduling
- Client relationship management
- Estimating
- Effectively managing risk
- Data security

**Current Software Investments**
- Enterprise resource planning
- Project management
- BIM-based workflows
- Predictive analytics/big data

**Planned Software Investments**
- Client relationship management
- Internet of Things
- Augmented reality/virtual reality

**Innovative Tech Investments**

Source: IDC 2019 The future of connected construction pulse survey (worldwide n=835)
What we’re seeing today
How are these two processes currently working together?

We have bid management processes in place.

We (may) have risk processes in place.
ESTIMATING TEAM:

1. Sends bid invitation to subcontractor
2. Analyzes bids and performs bid leveling
3. Puts together a cost estimate
4. Awards subcontractors
Breaking down the prequalification process

- Invites subcontractors to quality
- Subcontractors complete questionnaire
- Performs risk analysis
- Creates risk mitigation plan
- Assigns qualification status
Challenge with the current process

Risk data is not always incorporated into how Estimators analyze bids and choose the best subcontractors for the right jobs:

- Increased unforeseen costs.
- Increased change orders.
- Increased safety issues.
- Extended project timelines.
Connecting estimating & risk teams

**ESTIMATING**

- **Quantification**
  - Understanding scope

- **Pre-bidding**
  - Win contract with owner

- **Bid Management**
  - Bid Won

- **Final bidding/procurement**
  - Secure additional trade partners
  - Access qualified subs

- **Scheduling**

**RISK MANAGEMENT**

- **Qualification**
Connecting risk & estimating workflows

**ESTIMATING TEAM**
- Sends bid invitation to subcontractor
- Analyzes bids and performs bid leveling
- Puts together a cost estimate
- Awards Subcontractors

**RISK TEAM**
- Identifies and invites subcontractor to qualify
- Subcontractor invited to qualify
- Subcontractor completes questionnaire
- Risk analysis performed
- Qualification status assigned
Integrating your prequalification & bid management processes
Quickly Identify Subs

Integrating your prequalification & bid management processes
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Integrating your prequalification & bid management processes

Setting Status & Limits
Integrating your prequalification & bid management processes

<table>
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<tr>
<th>FIELDS</th>
<th>ESTIMATED COST</th>
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<tr>
<td>GC</td>
<td>$48,942,300.00</td>
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<tr>
<th></th>
<th>Bay Area DBS</th>
<th>New Valley Structures</th>
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<tr>
<td>$ Spread from Estimated Cost</td>
<td>-$2,121,329</td>
<td>-$45,427,300</td>
</tr>
<tr>
<td>% Spread from Apparent Low</td>
<td>+691.49%</td>
<td></td>
</tr>
<tr>
<td>$ Spread from Apparent Low</td>
<td>+$24,305,971</td>
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<tr>
<td>% Spread from Base Bid</td>
<td>-</td>
<td></td>
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<tr>
<th>QUALIFICATIONS</th>
<th>Powered by TRADETAPP</th>
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<tr>
<td>Status</td>
<td>Qualified w/ exceptions</td>
</tr>
<tr>
<td>Expiration Date</td>
<td>Jun 30, 2021</td>
</tr>
<tr>
<td>Project Limit / Total Limit</td>
<td>$5.7M / $8.4M</td>
</tr>
<tr>
<td>Leveled Bid as % of Project Limit</td>
<td>488.1%</td>
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How do we put this into motion?
Identifying & quantifying financial risk

Can my subcontractors complete my job within my timeline and budget?

Identifying Risk Factors:

1. Automated risk and safety analysis
2. Qualification status
3. Single / total project limits
4. Risk mitigation plans
5. Internal project backlog

Quantifying Risk Examples:

1. Accounting for additional administrative costs for lien waivers or joint checks
2. Comparing labor hours on the bid submitted against outstanding backlog
Identifying and quantifying safety risk

Can my subcontractors complete my job without safety issues?

Identifying Risk Factors:
1. EMR
2. OSHA Records
3. Collecting safety standards
4. Project history

Quantifying Risk Examples:
1. Additional onsite supervision
Implementing **project approval workflows**

- Project team requests approval
- Approval routed internally
- Decision communicated to project team
- Teams review and document
Identifying and quantifying COVID risk

How have my subcontractors been affected by COVID?

Identifying Risk:

1. Understanding people impact
2. Understanding liquidity impact
3. Understanding supply chain impact

Quantifying Risk Examples:

1. Adjusting labor hours
2. Adjusting materials being used onsite
The future of risk-adjusted bid management
How are you adapting your processes during COVID for improved risk assessment?

People & Projects
- Recent company lay-offs or furloughs
- Effects on staff or manpower
- % of projects that have been shut down

Supply Chain
- Protection against large supply chain risks
- Material delays

Liquidity
- Federal loans
- Aging projects
Connected risk data throughout the project lifecycle

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Network: Builders Network
Final thoughts

• How can you get your project teams to think more like your risk teams?

• How is the technology you’re using helping you adapt to today’s current complexities?

• How can you start better predicting potential risk to protect your profit margins?