IT Trends in Construction
A Larger Perspective
Construction productivity 1950-2012

Real productivity (GDP value-add per employee) by industry in the US
Indexed; 1950 = 1.0

SOURCE: Bureau of Economic Analysis (BEA), Hideyuki (2011)
The construction industry is among the least digitized.

1Based on a set of metrics to assess digitization of assets (8 metrics), usage (11 metrics), and labor (8 metrics).

2Information and communications technology.

Source: AppBrain; Bluewolf; Computer Economics; eMarketer; Gartner; IDC Research; LiveChat; US Bureau of Economic Analysis; US Bureau of Labor Statistics; US Census Bureau; McKinsey Global Institute analysis
Human Resources

• Position has changed
• Demands are higher
• Compliance more demanding
• Recruiting/Onboarding
• Training/LMS
• Safety
ERP

• Several legacy systems remain
• Question whether they continue as center of the universe
• Greater use of best-in-class solutions
• Middleware being considered
• Many ERPs have been acquired
• None ready for fabrication
Managing IT

• IT originally established to manage infrastructure (e.g. servers, network)
• IT was never staffed to keep pace
• IT was never supervised in a way that allowed them to grow
• Traditionally one position under-staffed
• Who is providing leadership?

Business Analyst
Super User
CIO/IT Director
IT Staffing

• Traditional role has changed
• Need for more process orientation
• Understanding of IT governance
• Understanding of contracts and agreements
• Strategy/Vision is critical

✓ Learning to lead
✓ Learning to let go
✓ Learning to communicate
Cyber-Security

• Weakest link
• Ransom-ware far more common
• Targets are not the most valuable but the most vulnerable
• Security officer
• More devices = more exposure
Movement to the Cloud

- Movement to the Cloud is strategy, it deserves thought
- Data sovereignty
- Integrations
- Single-tenant/Multi-tenant
- Storage?
Project Management

• Integrated versus stand-alone still an issue
• Procore has captured considerable market share
• PlanGrid acquired by AutoDesk
• Much more mobile and collaborative
• Not much integration yet with model
Procure to Pay

• Contractors paying more attention to life-cycle
• Some moving to procurement platforms like Ariba and Coupa
• Some moving to invoice routing solutions like IntelliChief and DataServe
• Textura and GC Pay have significant presence
• Industry still struggles with POs and receiving tickets
• P-cards being implemented
IoT

• Equipment Telematics
• Wearables
• Building sensors
• Systems not prepared
Business Intelligence

• PowerBI and Tableau have captured considerable market share
• Vendors continue to build dashboards and graphics in their solutions
• Condition of data is paramount
• Data warehouse is good approach
Process Improvement/Change Mgt.

- Think beyond the application (silos)
- Involve personnel from other departments
- Think outside the box
- Be suspicious of “this is the way we have always done it”
- Design for the front of the curve
Priorities

• Cannot pursue all at once
• Should not pursue shiny objects without the fundamentals being in place
• Role of the business analyst

Execute Well as You Go

• Cannot pursue all at once
• Should not pursue shiny objects without the fundamentals being in place
• Role of the business analyst
Implementation
Top 10 Processes for Construction

• Procure to Pay
• Timecards/labor
• Material Management
• Service Management
• Contract Management
• Project Management
• Equipment Management
• Billing
• Job Cost, Change Orders, Forecasting
• Estimating and Bidding
Consider Carefully

- Executive sponsorship
- Implementation team and time commitment
- Where your processes came from
- What is really required?
Questions
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