

AECOO – Best Value Facility Construction & Operational Excellence

Position Paper #104 – Peter Cholakis

Best value, collaboration, transparency and operational excellence can be achieved through the implementation of AECOO¹ LEAN management practices.

Maximizing productivity and achieving the best possible return capital and human resource expenditures, however, requires a focus upon change management. The traditional ineffective and antagonistic AECOO daily business practices, responsible for decades of productivity decline, must be abandoned in favor of collaborative outcome-centric processes.

The first step in change management is improving organizational awareness, knowledge, and competency in two core areas...

1. Physical asset life-cycle modeling and management, and
2. LEAN collaborative construction delivery methods.

It is very important that resources be applied to the understanding and leveraging of robust management processes and practices across all stakeholders. It is equally important to recognize that technology is an enabler, however should not dictate or limit efficient management practice development or deployment.

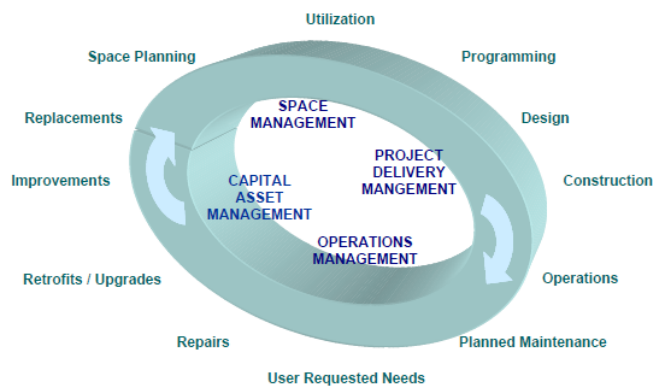
Best Value Facility Construction & Operational Excellence is an ongoing process. A process which relies upon multiple COMPETENCIES, INDUSTRIES, PROCESSES, and LONG TERM RELATIONSHIPS. Figure #1 graphically portrays an example of these elements and their interrelationships.

From a broader perspective developing an asset competency model requires a outcome-based strategies,transparency, collaboration, best value procurement, and insight (versus excessive management and control). These are shown in the asset competency model on the following page.

Common terms and data architectures, clearly defined roles, responsibilities, outcomes, incentives that drive intended results, and the use of key performance indicators, KPI's, are all components of

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Figure 1: Asset Lifecycle Model for Total Cost of Ownership Management



INDUSTRIES¹ Competencies²

¹ Industries - Business areas supporting specialized asset management business processes and practices.

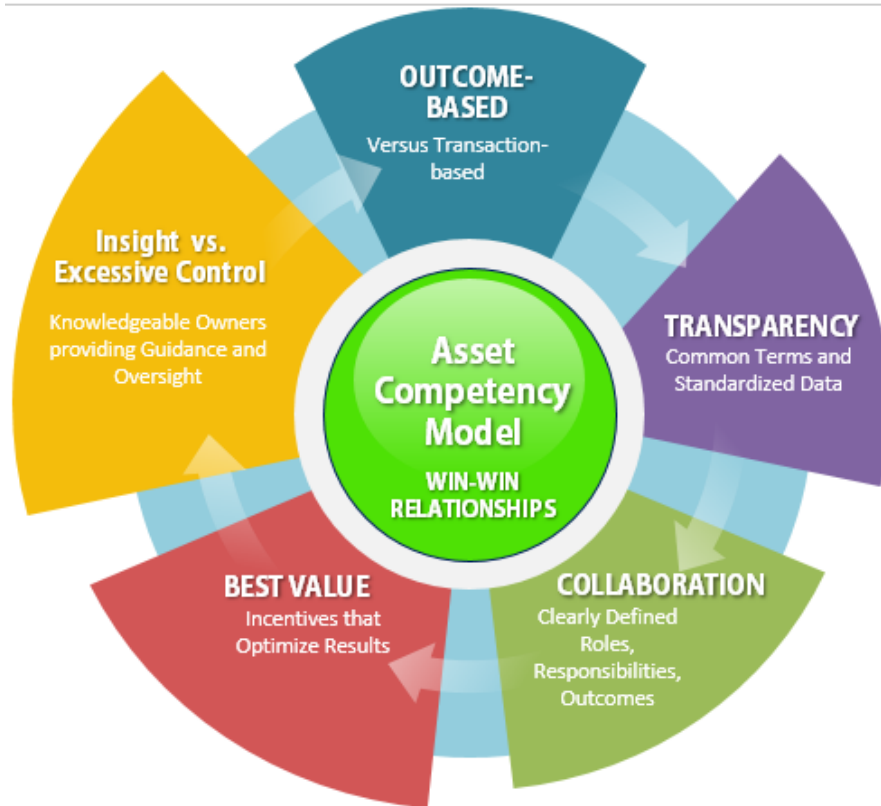
² Competencies - Core skills and activities performed within specified asset management industries.

¹ AECOO is an acronym for Architecture, Engineering, Construction, Operations, Owner.

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an asset competency model and ability to drive enhanced economic and environmental performance with respect to physical assets.



The CONSTRUCTION DELIVERY METHOD defines roles, responsibilities, levels of risk, business processes and workflows, requires information standards, timelines and establishes required levels of transparency and collaboration.

It is the CONSTRUCTION DELIVERY METHOD sets the overall tone for renovation, repair, maintenance, or new construction projects and ultimately impacts success or failure more so than any other single element.

Collaborative construction delivery methods have been implemented for decades and are proven to support unparalleled performance. Over 90% of projects can be completed on-time, on-budget, and to the satisfaction of all participants. The most widely known and used LEAN collaborative construction delivery methods are Integrated Project Delivery, IPD, for major new construction, and Job Order Contracting, JOC for renovation, repair, and minor new construction.

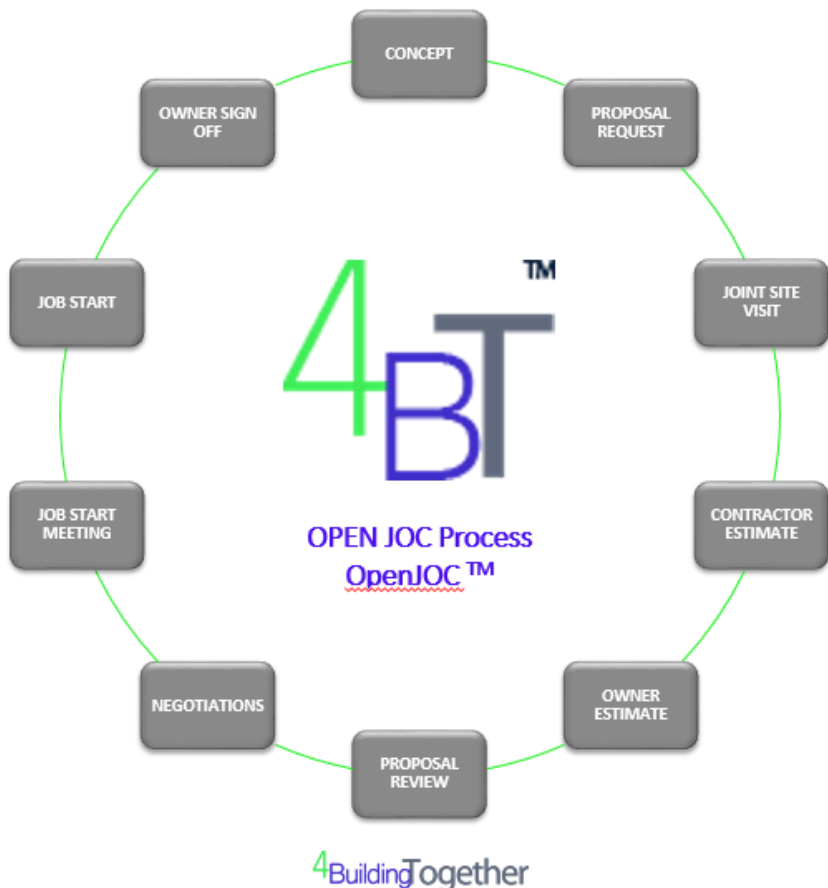
In order for LEAN COLLABORATIVE CONSTRUCTION DELIVERY METHODS to succeed, all parties must receive added value from the relationship/partnership and contribute equally and/or to their appropriate “share”.

Parties must also recognize that they are committing to a long term relationship. As such, they must be willing to sacrifice short term gains for longer term performance. For example, contractors must be willing to achieve a

reasonable profit on average, with some individual projects being less profitable than others. Owners, on the other hand, must engage in best value procurement versus lowest bidder, and treat their contractors with respect. All parties must have a shared and agreed upon vision and intent associated with the partnership and clearly defined objectives and goals. Mutual trust and reliance upon the competency that each party “brings to the table” is equally important. All participants must be granted the flexibility to deliver their services/products in the most suitable manner, in order for the ultimate benefit of LEAN COLLABORATIVE CONSTRUCTION DELIVERY METHODOLOGY to be achieved... all parties developing solutions with and for each other, which in turn results in continuous improvement in the ways tasks are accomplished.

The ultimate benefit of LEAN COLLABORATIVE CONSTRUCTION DELIVERY METHODOLOGY is that all parties develop with and for each other, which in turn results in continuously improving ways of accomplishing tasks.

JOB ORDER CONTRACTING, JOC, as noted, is one of the most widely used LEAN collaborative construction delivery method for renovation, repair, maintenance, sustainability and minor new construction projects. JOC has been successfully practiced for over three decades by a select group of real property owners, contractors, and subcontractors. An overview of the JOC process/workflow is shown below.



JOC has been deployed in three ways:

1. Owner-developed and managed JOC.
2. Cooperatives
3. Third Party Administered, TPA and/or Outsourcing.

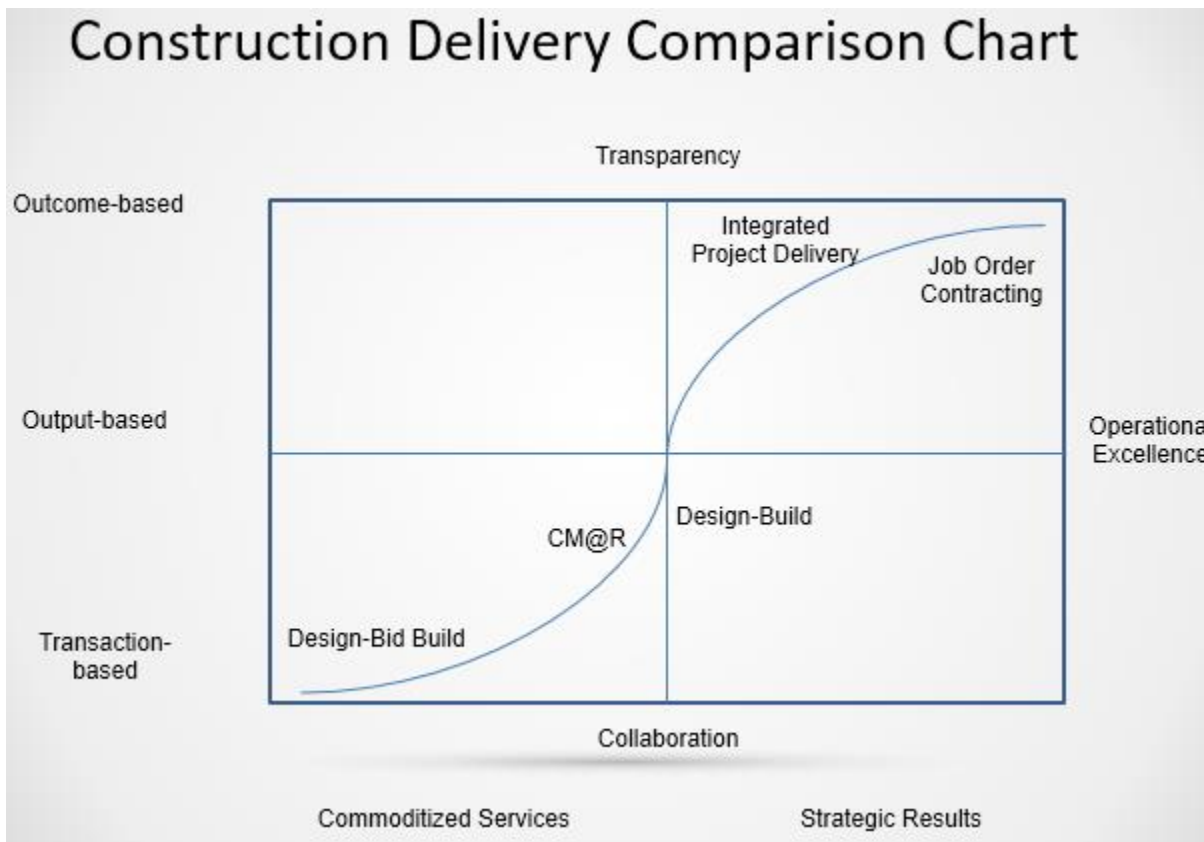
Of the three methods, Owner-developed and Owner-managed JOC delivers the best possible outcomes. It does, however, require a higher level of Owner competency and involvement. Cooperatives and TPA administered Job Order Contracts have their role.

Cooperatives are generally for Owners that do not have a sufficient volume of JOC construction work to justify and Owner-developed and Owner-managed Job Order Contract.

TPA JOCs are best suited for Owners that have yet to develop the competency to develop and managed a Job Order Contract internally.

Both Cooperatives and TPA JOCs are generally more expensive on a “per project” and overall basis. While they both also fail to enable all off the benefits of LEAN COLLABORATIVE CONSTRUCTION they do have their appropriate roles.

The “Construction Delivery Comparison Chart” demonstrates the relative positioning of Job Order Contracting and Integrated Project Delivery versus “traditional” construction delivery methods. As shown, both represent an evolution from design-bid-build (DBB), with CM@R, Design-Build, and other “transitional” construction delivery methods also shown.



In summary real property owners must become more knowledgeable in these areas, REQUIRE collaborative construction delivery methods, and demonstrated LEADERSHIP with respect to change management.

Learn More...

[Collaboration In Construction-WhitePaper](#)

[The Do's and Don'ts of Job Order Contracting](#)

[JobOrderContractingWhitePaper2016801](#)

[IntegratedOrderContractingSAME](#)

[Asset Total Cost of Ownership-Efficient Life-cycle Management Model](#)

[Classification Criticality – Architecture, Engineering, Construction, & Life-cycle Facility Management – A Draft White Paper](#)

[BIM for Facility Management](#)

[The Evolution of Construction Cost Estimating Technology](#)

[Maintenance and Repair of Federal Facilities](#)

[Integrated Project Delivery for Public and Private Owners](#) – AIA, NASFA, COAA, APPA, AGC

Key Characteristics of LEAN Collaborative Construction Delivery Methods

Best Value Procurement

Early and Ongoing Collaboration

Shared Risk/Reward

Common Terms, Definitions, and Data Architectures

Financial Transparency

Mutual Trust and Respects

Focus Upon Outcomes

Long Term Relationships

Continuous Improvement, Education, and Training

Key Performance Indicators (KPIs)