

Case Study Title: “Success is not just to get to the top of your business, but to continue to improvement and maintain your ranking on the top”

Author



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Michigan State University (MSU) is a Land Grant Research University established 1855 with 60,000 Students on 1 campus of 5200 Acres. It has one of the largest on campus housing systems in the USA and was first public institution to adopt Integrated Project Delivery (IPD), Multi-Party Agreement.

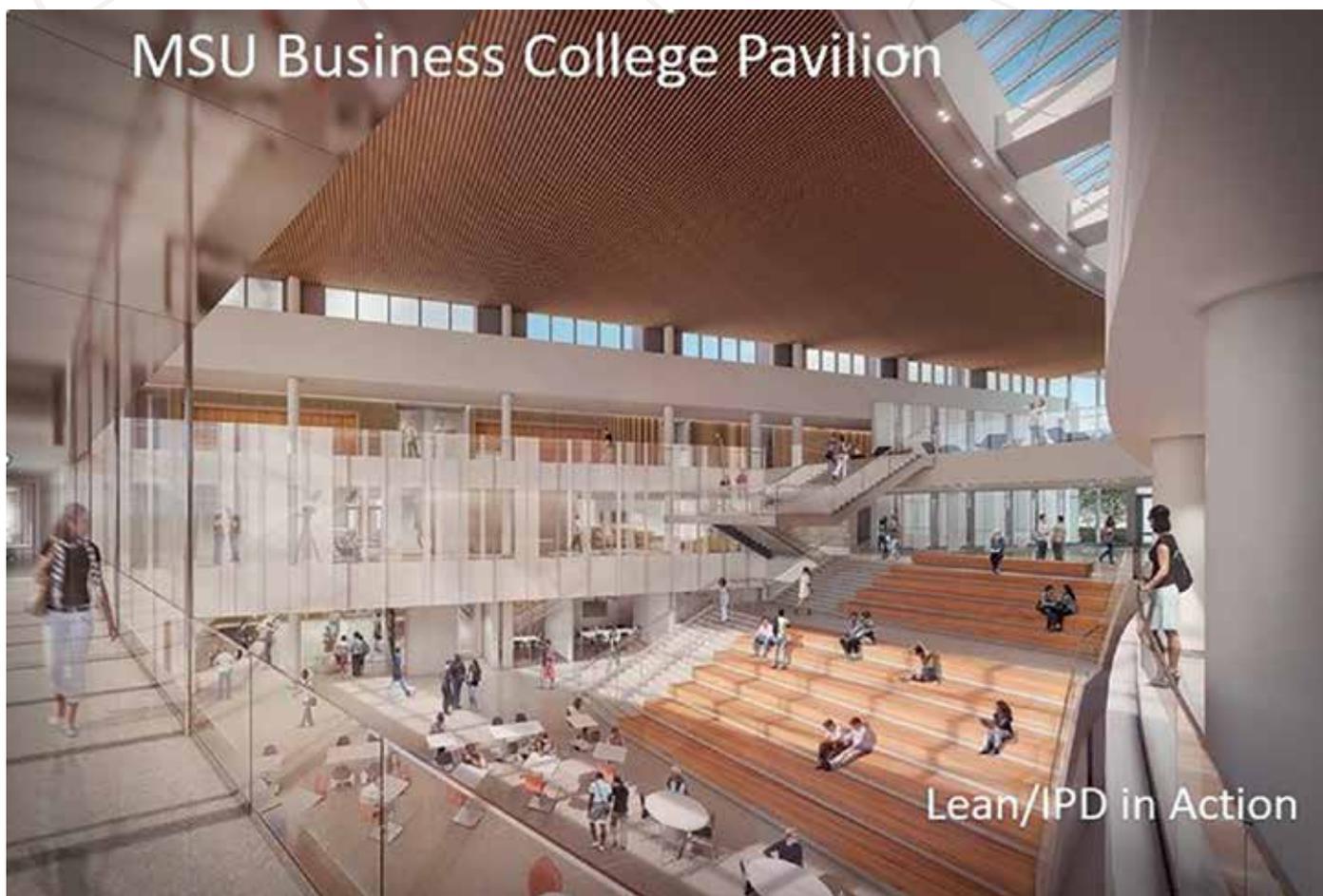
The MSU Lean journey started in 2006 with an Integrated Project Delivery (IPD) Project, a true Multi-Party Contract that had early involvement and close collaboration of trade partners and contractors from the start of project design. The Business College Pavilion project is the second IPD project on MSU Main Campus.

The new Graduate Pavilion provides the opportunity to create a highly visible, statement facility to support the rapidly evolving graduate education needs of the College of Business, one of the leading business colleges in the country. All five of the Business College’s academic units are ranked among the top 25 in the country and its flagship MBA program is ranked 11th among public institutions and 6th in terms of Return On Investment (ROI) in the most recent BusinessWeek rankings. This project needed to reflect both the current and aspirational positioning of the Broad College as a leader and innovator in business education.

Approximately 100,000 square feet of new classrooms, laboratories, workrooms and gathering space are included in the expansion. Added flexibility in workspaces, coupled with new technology, will give students necessary experiences before they start their jobs at Google or similar companies.

Change is constant in business; the forces of technology and globalization are revolutionising the ways in which business is conducted. Business College faculty and staff are working to provide a rigorous and innovative curriculum and a relevant educational experience to prepare MSU graduates for this changed business environment. With the new Pavilion, MSU will take a significant step forward in its “we make business happen” approach to business education by providing the frameworks, tools, knowledge, and experiences that will fully prepare students for their business careers as leaders, strategic and analytic thinkers, entrepreneurs and team members.

With a new interactive “collaborative” environment that reflects the real-world workplace model of people working within and across teams to bring products and ideas to market, the Business College Pavilion will support the development of a robust integrative culture for the MBA Program. It will help the college prepare its MBA students to be stronger at “making business happen” through a program that focuses on teamwork, analytical insight, and an



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integrated business perspective. The new facility, strong experiential learning component, and new emphasis on social impact, will further differentiate the program and enhance the national reputation and standing of the College program. The Pavilion will help achieve the aspiration to grow the MBA ranking and become a world-class destination for students and faculty from around the globe. And most importantly, it will enable MSU to graduate future dynamic leaders to become trailblazers, spearheading change at existing businesses or creating new ventures.

The Pavilion will also enable the College to build on its mission to advance a platform of relationships with corporations, employers, alumni, and leading-edge thinkers, as well as capitalize on the strong portfolio of the college's professional master's programs in accounting, supply chain management, marketing research, finance, and business analytics. The facilities, corporate partnerships, faculty, and pedagogical approaches will create a new model of graduate education that will differentiate the Business College MBA and master's programs from other business schools in the country and abroad. It will become a strong draw and strengthen efforts to recruit and retain top talent.

The Business College Pavilion project contains:

- Space for interactive learning, collaboration, conferences, competitions, and other events
- Program specific, state of the art classrooms
- "One Stop" student support services, including advising and career services
- Strategic placement of conferencing areas, student support services and technology to enhance communication and collaboration among faculty
- Improved and expanded technology
- A "sense of place" for students, partners and other visitors, faculty, and staff.

Why is MSU interested in IPD?

We are all tasked with doing more with our capital funds. MSU is using explore techniques to help overcome institutional inertia and unlock innovation within their project delivery teams. As institutions work to mitigate risk and be more effective with their investment, IPD and aligned incentives are tools that should be considered for major capital projects.

Major objectives of MSU for adopting Lean and Integrated Project Delivery IPD have been:

- Responsibility to customers to provide maximum value
- Strive for constant improvement and prove it
- MSU wants to be a leader and innovator
- Intrigued by stories of successful IPD project

Understanding risk and opportunity with IPD project delivery:

Integrated Project Delivery requires a committed contractor, architect, and owner's representative working jointly under the correct contractual terms with sophisticated CAD Lean tools. The team needs to establish joint goals for using lean tools to enhance productivity, optimise the project schedule, and provide effective collaboration to add value during design and construction.

Integrated Project Delivery contract structure depends on using a single contract for design and construction with a shared risk/reward model, guaranteed costs, waivers of liability between team members, an operating system based on lean principles, and a collaborative culture.

Integrated Project Delivery teams are contractually tied together differently than traditional Design/Bid/Build, Construction-Management-at-risk, and Design/Build agreements. The typical IPD agreement includes the primary design firm, the primary builder, and the owner in a single contract for a single dollar value. The contract lays out the responsibilities of the designer, contractor and owner but also makes it clear that successful delivery of the project is the responsibility of all three.

The biggest advantage of this delivery method is you have a contractor who is part of the solution from the very beginning. When construction begins, we have somebody who is very familiar with what they are going to build, where they are going to buy materials, who are the suppliers, and how much it will cost. The fact that they hit the ground running from day one is really the advantage. See Figure 1, Multi Agreement Contract Structure for the Business College Pavilion.

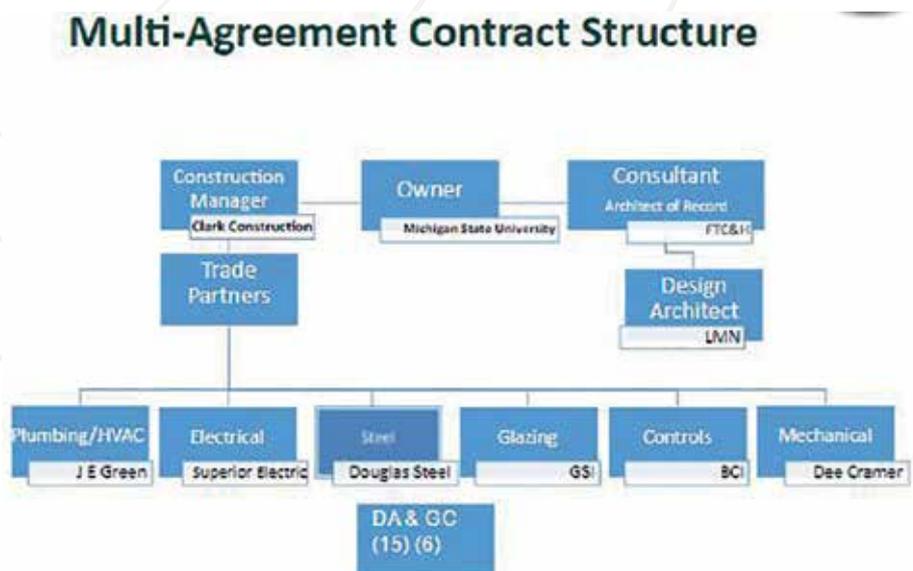


Figure 1: Multi-Agreement Contract Structure

A Lean Execution Plan

The Project team started with putting together a road map for execution of the Project. A Lean Execution Plan was created on an A3 (11"X17") sheet of paper that captured many important aspects of the Project: tentative schedule, teams, conditions of satisfaction, resources, etc. The plan set the tone for many organisational information, which promotes collaboration of the entire team at the very beginning of the design process. See Figure 2, Lean Execution Plan.

Target Cost:

To set the target cost for the Business College Pavilion, the Project Team went through a Validation Phase, in which the entire team was engaged in evaluating various design concepts to meet the project program. An early estimated cost was established, taking advantage of expertise of the construction manager and trade partners who were brought in early to the planning process. At the end of Validation

