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Project Management Skills of the Future

Construction Industry Institute

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**Prepared by
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Research Team 281, Project Management Skills of the Future**

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Executive Summary

CII Research Team (RT) 281 found that the duties and responsibilities of construction project managers (PMs) are currently undergoing a significant shift. The team's research effort involved the collection of data from more than 300 project managers, many industry professionals, and a number of industry thought leaders and academic experts. Industry predictions identify four drivers that will require PMs to have different competencies than they now need to adequately address stakeholder and project team member needs: 1) the evolution of technology, 2) greater access to information, 3) rapidly evolving workforce demographics, and 4) changing organizational structures.

Sometimes called “disruptive forces,” these drivers will dramatically change the way the industry approaches projects, forms project teams, and manages the flow of project information—in effect, breaking up the old ways of getting work done. While the term “disruptive” can have negative connotations, it also has positive elements: by being aware of the coming changes, the industry can adopt newer ways of working. In reality, these forces apply not only to the project management profession, but to business and commerce worldwide. However, as this study shows, how they influence the project manager of the future is largely within the industry's control—if the necessary skills and competencies are taught and mastered in the coming years.

The study found that, while the future may demand new skills, it will not change the fundamental attributes associated with project managers today; integrity, accountability, initiative, decisiveness, among other traits, will remain vital to the character of industrial project managers. What is changing is less revolutionary than it is evolutionary—for both the construction industry and the project manager. In the next 10 years, the industry should expect the project manager role to require greater competence in communications, relationship building, complex decision making, business insight, risk management, diverse thinking, engagement with others, and coaching and mentoring.

It is not so much that these are new competencies; many have a familiar ring to them. The difference is the depth of competence needed to use them in project execution. For example, project managers have always had to be good at building relationships—with clients, coworkers, team members. And this will not change in the next 10 years. However, the way relationships are built is shifting. Project managers in 2022 will build knowledge networks. The networks will be global, both inside and outside the project, and they will be virtual—meaning that people will not necessarily work out of the same office or at the same project location.

Even the faces of project managers are changing. Members of the younger generation will assume leadership roles as more seasoned project managers retire. Generation Y—the cohort of people now in their twenties—is the largest growing segment of the workforce. Preparing these young people for these roles is a crucial part of managing the future of project management.

This research summary describes the competencies needed to successfully deliver the project of 2022. The story it tells is at once sobering and promising. But leaning squarely into the challenge and taking action remains at the heart of project management, now and in the future.

Introduction

The project manager (PM) is the individual with ultimate responsibility for the outcome of a project, and project management has gained increasing recognition as a profession in recent years. In keeping with CII's strategic focus on the future success of the engineering-procurement-construction (EPC) industry, the institute commissioned Research Team (RT) 281 to investigate "the skill set that will be required by the project manager of the future." The team's dominant concern was to anticipate and convey the attributes and competencies required to successfully respond to the many changes already being experienced by PMs, as well as the challenges of the next 10 years. CII member companies can use this competency forecast for their recruiting and professional development programs. It will also be useful for PM education at the university level and for the creation of project management training tools.

The team found considerable synergy and some overlap among the competencies that project managers will need to successfully respond to emerging and new demands and circumstances. Each competency on the team's final list was chosen to emphasize four areas that it had deemed essential to overcoming the disruptive forces that lie ahead. The team identified fourteen competencies that will allow PMs to successfully address the following challenges: previously uncommon workforce configurations; new demands imposed by the rapid progression of globalization; the sometimes overwhelming information overload created by ever-advancing communications technologies; and the untraditional organizational structures imposed by new business models and multiple customers.

The research team organized these fourteen competencies into the following four categories:

- **Technical/Virtual**

- Is technically multi-disciplined.
- Demonstrates practical understanding of technology.

- **Management**

- Possesses keen business insight.
- Understands project management.
- Builds knowledge networks.
- Monitors risk continually.

- **Cognitive**

- Makes complex decisions.
- Displays emotional maturity.
- Communicates effectively.

- **Leadership**

- Leverages diverse thinking.
- Builds relationships.
- Engages others.
- Mentors people.
- Builds trust.

The key findings and forecast of attributes and competencies that PMs will need to be successful in 2022 and beyond are summarized in Chapter 3 below. In addition to the list of future attributes and competencies, the research team identified exercises, games, and tools to increase and maximize the benefits of project management development. An overview of these resources is summarized in Chapter 4 below.

Methodology

Unique Research Approach

The research plan developed for this study incorporated a unique and rigorous approach to data collection, analysis, and review:

- The research team engaged a diverse group of project professionals, all of whom contributed their independent perspectives to shape the research:
 - practicing project management professionals from owner and contractor organizations
 - emerging project managers belonging to Generation Y
 - experienced Super PMs with reputations for excellent performance in their organizations
 - EPC thought leaders with long and diverse experience in the industry as well as in research
 - industry team members and retired industry consultants with extensive expertise that ranged from human resource management to project and corporate management
 - academic researchers with expertise in the development of leadership competencies for project management professionals.
- Two primary information sources provided the foundation for the competencies forecast:
 - A team-based approach was used to conduct an extensive review of published studies on the future of the industry and PM competencies research, highlighting the forces, trends, and challenges ahead.
 - Instead of using classical surveys and interviews to collect stated opinions of practitioners, the research team used specially designed one-day project management training sessions to collect the revealed preferences of over 300 practicing PMs.

- The next step was to synthesize the findings and highlight the most important current and future competencies required to respond to the future demands and conditions identified in the published literature. The team analyzed, reviewed, consolidated, and substantiated all of the information through an iterative cycle of data mining analysis and reviews. The team captured the relationship between future challenges and future competencies in a linkage matrix. (See Table 4 on page 21.)
- Finally, a number of simulation games, exercises, and tools were identified as possible components of a project management development program in a classroom setting.

The Research Approach

This unusual research approach had three key phases: 1) information gathering, 2) synthesis, and 3) developing deliverables. (See Figure 1.)

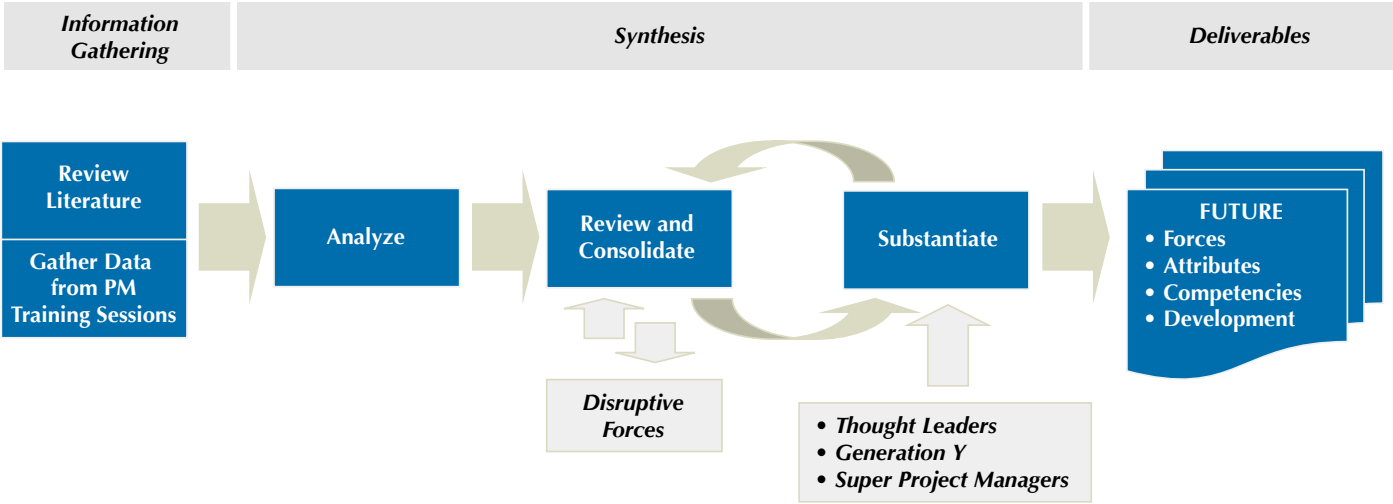


Figure 1. RT 281 Research Approach

Process reviews and future thinking: Thought leader meetings

The researchers recognized early on that this proposed research approach had to be exposed to independent scrutiny and challenge. To substantiate it, the team identified and consulted with five recognized industry thought leaders with long and diverse experience in the EPC industry as well as in research. Seeking feedback from such experts was primarily a way to challenge the proposed approach; secondarily, it was a way to acquire outside-the-box, “blue sky” ideas on the future of the PM profession. The thought leaders were presented with the research scope of work, the methodology for collecting information, and the research team charter. At the time of these meetings, the research team had not yet formulated findings or forecasts. Two of the thought leaders provided the team with their own forecasts for future global trends and a recommended path for professional project management certification. These consultations served as a starting point for further literature review and gave further substantiation to the research method.

Phase 1: Information Gathering

The research team used two primary information resources to build the foundation for the competencies forecast—an extensive literature review and the knowledge, experience, and projections of over 300 practicing PMs from member companies.

The literature review included a search of macro-level and industry-specific forecasts and PM competency research studies. To ensure that the search was extensive and that it incorporated multiple views of the future, the researchers formed a six-member sub-team to execute the literature review. This search provided predictions and insights on the forces and trends that will pose challenges for the industry and future PMs over the next 10 years. It also presented the researchers with a critical review of the methodologies behind previous PM competency research and industry-specific forecast studies.

For this research project, the industry team members departed from the traditional use of surveys and interviews to gain knowledge from the practicing project management professionals in their respective