

***What Project Management Competencies are  
Important to Job Success?***  
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**Mary Sumner**  
Southern Illinois University Edwardsville  
msummer@siue.edu

**Anne Powell**  
Southern Illinois University Edwardsville  
apowell@siue.edu

**Abstract**

This study is designed to determine the most important project management core competencies, including both hard skills and soft skills. The study determines the importance of these competencies to job success, and the current performance of project managers with respect to these core competencies. The gaps between importance and performance represent opportunities for professional development courses and programs.

**Keywords**

Project management competencies; Soft skills; Professional development in project management.

**Introduction**

Project management is becoming an important skill set in industry, and many companies seek graduates trained in project management core competencies. Identifying the most important core competencies is an important input into curriculum development. With the changing work place and increasingly global market that businesses now operate in, both the hard skills defined by the Project Management Body of Knowledge (PMBOK) and interpersonal, soft skills are in demand for today's Project Managers. This study is designed to determine the most important project management core competencies, including both hard skills and soft skills for effective project managers. The study also identifies gaps between these important project management competencies and the current performance of project managers with respect to both the hard skills and soft skills.

The objectives of this study are to:

- Determine project management core competencies (both hard skills and soft skills) most important to job success
- Identify the current performance of project managers in organizations for each of these core competencies
- Differentiate professional development needs for entry-level versus experienced project managers, and
- Determine emerging project management professional development needs over the next 3-5 years.

The motivation for the study emanate from the objectives. Understanding the project management core competences which are important to job success, and recognizing the gap between the importance and performance of these core competencies provides a foundation for courses and professional development programs to address these gaps. This type of education can be provided through traditional courses, non-credit workshops, and university/corporate partnership programs. Project management has become a way of doing work in many

organizations, and the design of programs to meet these expectations will contribute to the success of projects in healthcare, government, construction, business, and other industries. To a large extent, project management and project management competencies are industry-agnostic, which provides opportunities for academic professionals to address the need.

### **Review of the Literature**

A core competency is the knowledge, trait, skill, motive, attitude, value or other personal characteristic important in performing a job. A core competency can be a hard skill, where technical ability is required, or a soft skill, where interpersonal skills are needed. Effective project managers must have both hard skills and soft skills (Alam et al., 2010).

The Project Management Body of Knowledge (PMBOK) identifies the hard skill competencies of effective project managers, supporting each of the nine knowledge areas, including project scope management, time management, cost management, risk management, procurement management, communications management, quality management, and integration management.

Soft skills are also important attributes of an effective project manager. Numerous soft skills have been found to positively impact the effectiveness of a project manager. For example, one study identified six “soft skill” core competencies as leadership, communications, verbal and written skills, attitude, and the ability to deal with ambiguity and change (Stevenson and Starkweather, 2010). In another study, optimism was found to have a positive effect on project outcomes by facilitating better collaboration and problem-solving (Smith, Bruyns, Evans, 2011).

Similarly, in another study of project manager soft skill competencies, key competencies for information systems project phases were identified. In the Initiation phase, effective questioning and listening were important competencies. In the Planning phase, consensus building, technical skills and theoretical knowledge were valuable. The ability to be a team player, demonstrate honesty, and be results-oriented were important skills for the Implementation phase. In the Closeout phase, writing skills, pride in workmanship, and truthfulness were valuable skill sets (Skulmoski, 2010).

The development of hard skills and soft skills is important, and training and professional development programs have a positive impact on improving these competencies. A training program designed to develop skills such as scope management, resource management, cost management, and risk management, had a measurable positive impact on behavior and actions (Buganza, et.al., 2013).

Professional development programs can also improve behavioral competencies, as shown in a study by Alam, et. al., 2010. Behavioral competencies, including leadership, motivation, self-control, openness, negotiation, and results orientation changed after a program designed to develop these competencies.

Based upon published project management literature, both hard skills and soft skills are important to the successful performance of effective project managers. Additionally, both hard skills and soft skills can be developed as part of training and professional development programs. This study investigates both core competencies of project managers as well as reviewing existing training and development programs used by today’s project managers.

### **Research Design**

The project management competencies were developed from a list of core competencies in the Project Management Body of Knowledge. Additionally, a Project Management Advisory Board, consisting of 25 experienced project management professionals representing their respective organizations, reviewed the list of competencies, made recommendations, and validated the items.

The respondents to the survey were project management professionals attending an annual Project Management Symposium. Each year, a mid-sized university in the US Midwest organizes a Project Management Symposium, a one-day conference which brings together several hundred experienced project managers. The PM Symposium program, which is organized and developed by the members of the Project Management Advisory Board, gives the participants an opportunity to share best practices and lessons learned in project management. On November 16, 2012, the annual Project Management Symposium brought together over 350 project managers representing over 66 organizations.

The participants in the annual Project Management Symposium were given an opportunity to complete a web-based survey regarding the project management competencies. The web survey provided questions on the importance and performance of core competencies in project management—both “hard skill” competencies and “soft skill” competencies.

Approximately 48 project managers responded to the survey, and the results were analyzed in December, 2012. In terms of the demographics of the population surveyed, the 350 individuals who were invited to respond were project managers representing a cross-section of industries, representing business, government, education, construction, and healthcare.

### Findings and Discussion

The highest-rated “hard skills” core competencies were those rated 4.4 or above on a scale of 1 to 5, with 5 being “highly important.” The core competencies considered most important included Collecting Requirements, Getting Requirements Right, Defining Project Scope, Obtaining the Buy-in of Project Sponsors, Managing Scope, and Managing Effective Project Communications (Table 1). Project Communications is defined as communicating project status and issues effectively as well as effective written and presentation skills.

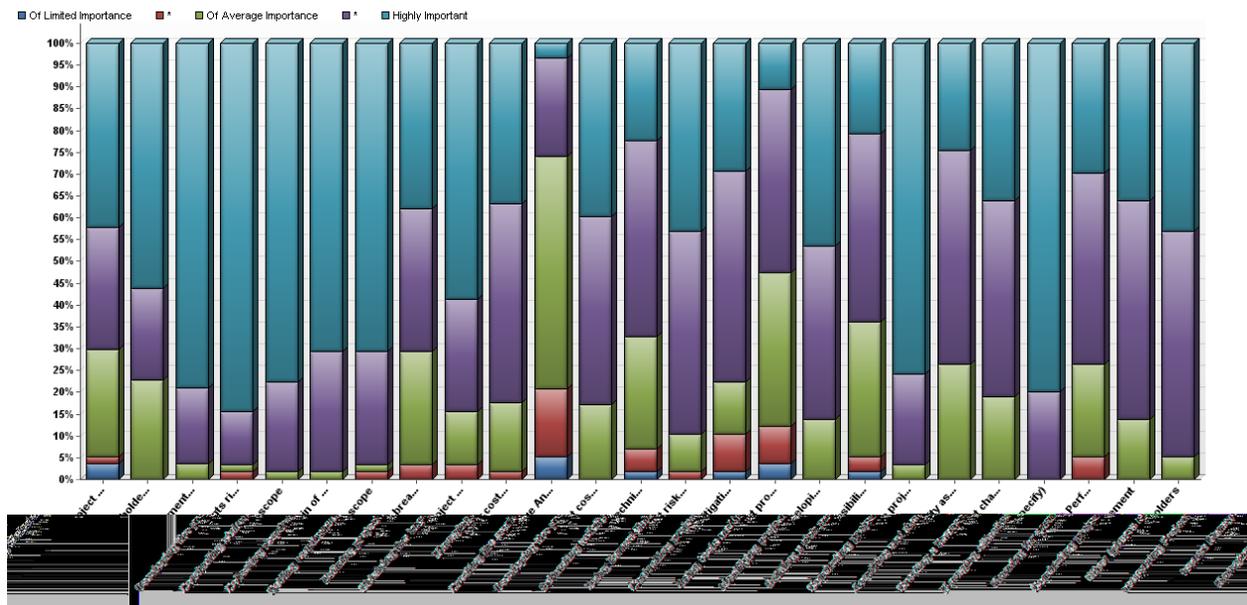


Table 1: PM “Hard Skills” core competencies most important to job success

The current performance of the project managers for these hard skills was rated using a scale of 1 to 5, with 5 meaning “high competency,” 3 being “moderate competency,” and 1 meaning “limited competency.” For the highest-rated competencies, current performance was viewed as moderate (Table 2a and Table 2b).

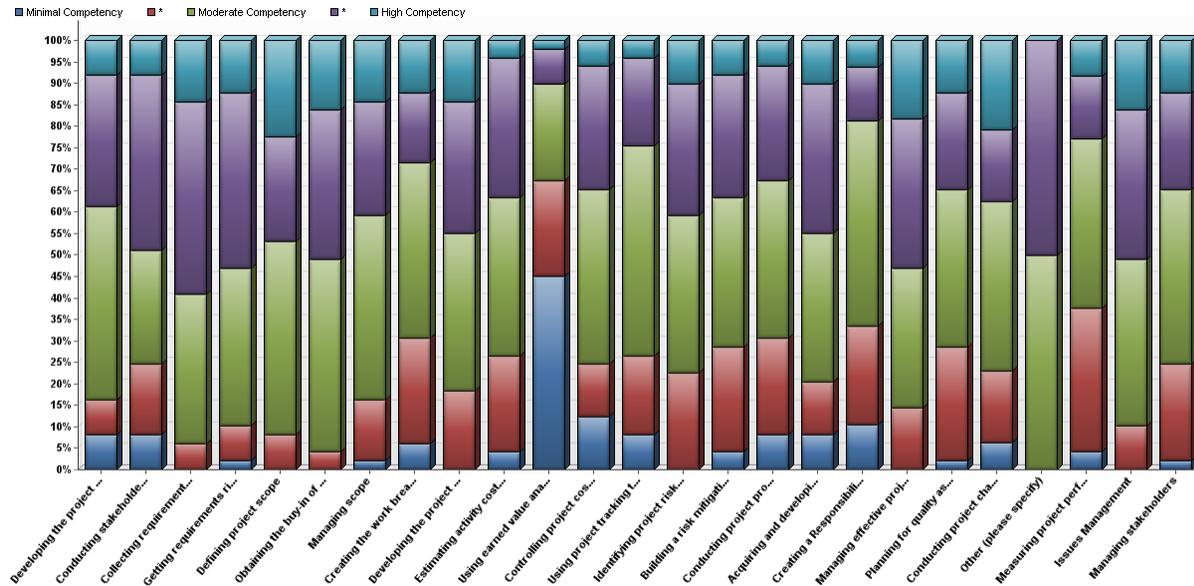
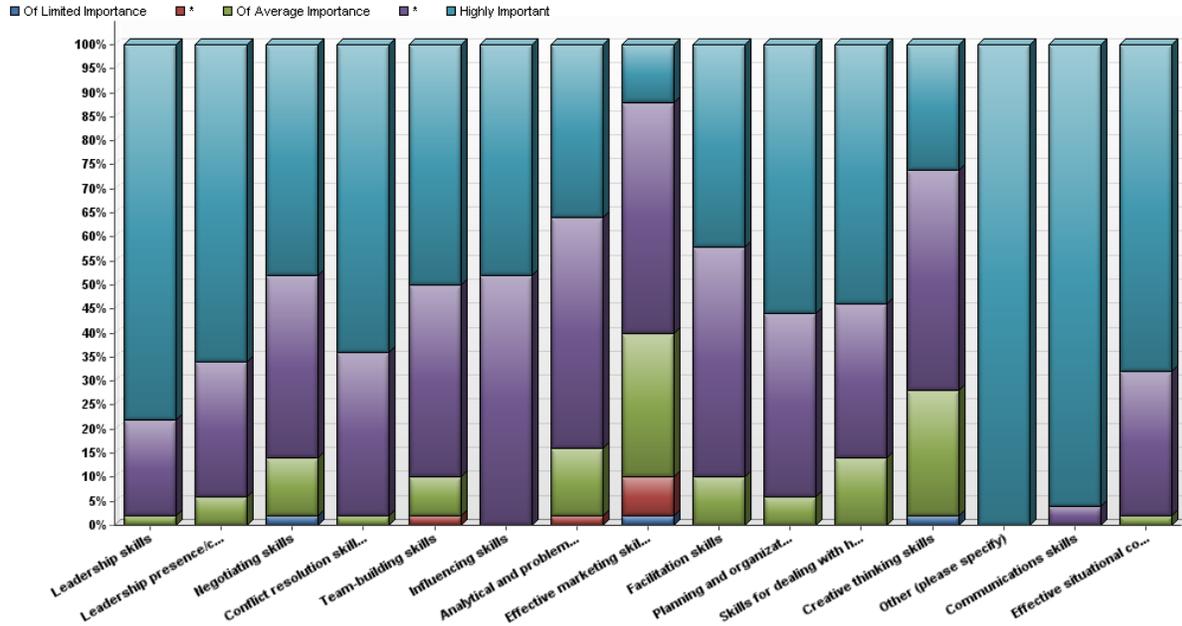


Table 2a: Current performance of project managers in organizations for these core competencies

	Importance	Performance
<b>Getting requirements right</b>	<b>4.79</b>	<b>3.53</b>
<b>Defining project scope</b>	<b>4.76</b>	<b>3.61</b>
<b>Collecting requirements</b>	<b>4.75</b>	<b>3.67</b>
<b>Effective project communications</b>	<b>4.72</b>	<b>3.57</b>
<b>Obtaining the buy-in of project sponsors</b>	<b>4.69</b>	<b>3.63</b>
<b>Managing scope</b>	<b>4.66</b>	<b>3.37</b>

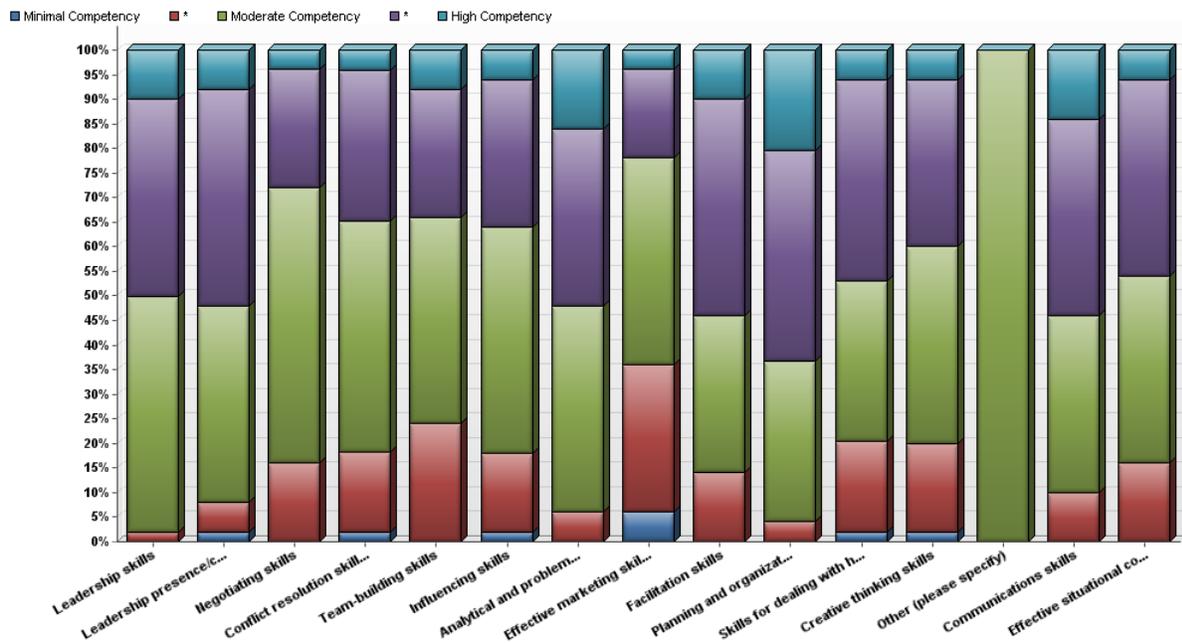
Table 2b: Comparing importance and performance of “Hard Skill” core competencies.

Soft skills were also ranked in terms of importance in managing projects, on a scale of 1 to 5, with 5 meaning “highly important,” 3 “of average importance,” and 1 “of limited importance.” The soft skills rated 4.40 or above in importance included leadership skills, leadership presence, conflict resolution skills, influencing skills, planning and organizational skills, skills for dealing with human factors, communications skills and effective situational communications (Table 3).



**Table 3: Soft Skills Important in Managing Projects**

The current performance of the project managers for these soft skill competencies was rated using a scale of 1 to 5, with 5 meaning “high competency,” 3 being “moderate competency,” and 1 meaning “limited competency.” When the importance of these soft skills was compared with their performance, the disparity was clear (Table 4a and Table 4b).



**Table 4a: Current performance of project managers for each soft skill**

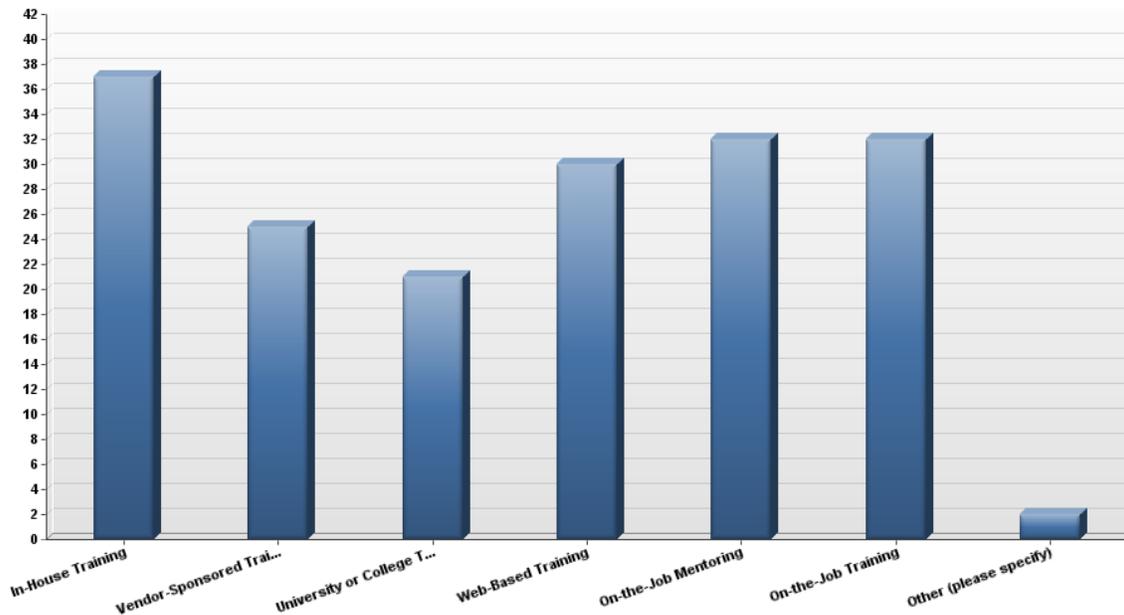
	Importance	Performance
Communications skills	4.96	3.58
Leadership skills	4.76	3.58
Effective situational communications	4.66	3.36
Conflict resolution skills	4.62	3.18
Leadership presence/confidence	4.60	3.50
Planning and organizational skills	4.50	3.80
Influencing skills	4.48	3.22
Skills for dealing with human factors	4.40	3.31

**Table 4b: Comparing importance and performance of “Soft Skill” core competencies**

With a better understanding of the hard skills and soft skills needed for project managers, as well as the performance of project managers in these competencies, we can identify training methods to improve these competencies.

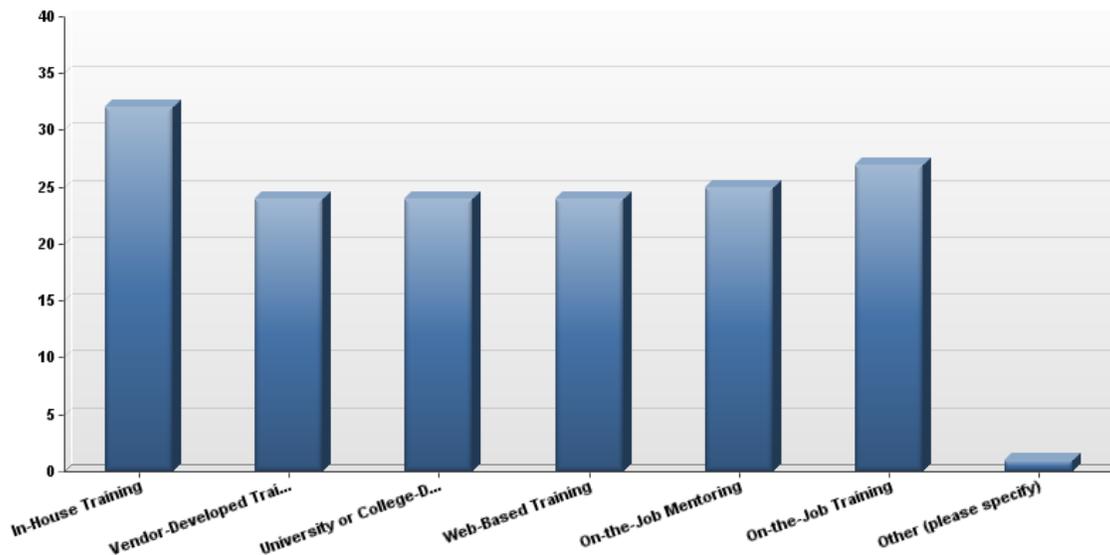
**Training and Professional Development in Project Management**

Most of the respondents noted that their organizations provide training and professional development in project management for new project managers. Programs include in-house training, vendor-sponsored training, university training, web-based training, on-the-job mentoring, and on-the job training (Table 5).



**Table 5: Training and professional development programs for new project managers**

Similarly, professional development and training programs were offered for experienced project managers, using the same training formats. Experienced project managers were slightly more likely to obtain training from university programs and slightly less likely to receive training from on-the-job mentoring, on-the-job training, in-house training, and web-based training (Table 6).



**Table 6: Project management professional development for experienced project managers**

When asked about the professional development needs of (1) entry-level project managers (2) experienced project managers, and (3) project managers over the next 3 to 5 years, the results showed both “hard skill” and “soft skill” competencies. Communications Skills are highly important training needs for both entry-level project management professionals and for experienced PM professionals, but communication skills training appears to be particularly essential for the entry-level project manager with 43% of respondents identifying communication skills training as important for entry-level managers and 18% identifying communications development as important for experienced project managers. Basic project management skills – scope, time and cost management – are also viewed as important to entry-level project managers (Table 7).

Communication skills development tops the list for both entry-level project managers and experienced project managers, but after that professional development needs differ for the two groups. Leadership skills are more pressing for experienced project managers. A number of “soft skills,” such as negotiation/influencing, conflict resolution, and team-building also emerge in importance for experienced project managers, compared with entry-level ones (Table 8).

Communication skills development again tops the list for development needs over the next 3-5 years for project managers. Respondents believe communication skills development is essential to project managers and will continue to be in the near future. Other projected project management skill sets needed for the next 3-5 years include leadership training, agile development training, managing virtual teams, and the continuous development of basic PM skills – scope, time, and cost (Table 9).

Needs:	% responding
Communications	43%
Basic PM - Scope, Time, Cost	30%

PMI Certification	11%
Stakeholder management	11%
Understanding the company culture and PM practices	11%
Estimating	11%

**Table 7: Professional Development Needs for Entry-Level Project Management Professionals**

Needs:	% responding
Communications	18%
Leadership	15%
Managing budgets	13%
Negotiation/Influencing	13%
Risk Management	13%
Conflict resolution	11%
Team-building	11%

**Table 8: Professional Development Needs for Experienced Project Managers**

Needs:	% responding
Communications	39%
Leadership	17%
Agile	14%
Virtual teams	14%
Basic PM – Scope, Time, Cost	14%
Risk Management	11%
PMO Role	11%

**Table 9: Emerging project management professional development needs over the next 3-5 years**

**Summary and Conclusions**

**Hard Skill Competencies.**

The high importance, and the moderate performance of the hard skill competencies, most of which deal with requirements definition and scope, creates a professional development opportunity. Effective communications, including written communications and presentation skills, is another priority for training and professional development, given the disparity between importance and performance.

**Soft Skill Competencies.**

The high importance, and moderate performance, of the soft skills – including communications, leadership, influencing skills, and skills for dealing with human factors, presents a challenge to educators to develop courses and professional development programs for these soft skills for both entry-level and experienced project managers.

### **Skill Needs for Entry-Level vs Experienced Project Managers.**

Communication skills development is ranked highest for both entry-level and experienced project managers. This ranking underscores the importance of communication in project management. Scope, Time, and Cost management skill development is essential for entry-level project managers, while soft skill development of leadership and negotiating/influencing is ranked highly for experienced project managers, in addition to the “harder” skills of risk management and managing budgets.

### **Projected Project Management Skill Sets.**

Over the next 3-5 years, communication skills development will continue to be of primary importance for project managers. Developing skills to enable project managers to better manage agile and virtual teams is expected to be highly important. In addition, leadership training and the continuous development of basic project scope management, cost management, and time management is paramount to project managers.

### **Implications for Project Management Education.**

The findings have implications for project management education. First, courses in project management should focus not only on the “hard skill” competencies, but also on the “soft skill” competencies. Skill sets such as communications, leadership, negotiating, and conflict resolution can be developed through participation in “real-world” projects, case studies, and simulations, so that students have an opportunity to gain review and feedback from faculty, industry partners, and peers. In this way, project management education will meet the expectations of employers who value these skill sets.

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