PSM SURVEY

SUMMARY OF MAJOR FINDINGS

N=60: 60 respondents completed the survey

Overview

• Perhaps the most important finding in this survey is that almost three quarters (73%) of the potential employers interviewed have never heard of the PSM degree. While we must be cautious in generalizing, even to the original list, one would not expect greater awareness of PSM programs among non-respondents in the original sample. Therefore, the most important effort needed will be to publicize the PSM and explain its substance and its value to potential employers. Eighty percent of respondents say that it is important for their trained scientific personnel to also have business skills.

• This survey indicates that the next crucial steps for the PSM initiative should include: 1) developing programs in areas of scientific expertise from which most employers are hiring, 2) preparing students for the positions that are hardest to fill, and 3) providing training in the non-scientific skills most desired by these organizations.

  a. Engineers are hired most by these organizations—but engineering is the area that drew the largest number of respondents.

  b. Product development, research, analysis and technical writing are the positions which are hardest to fill.

  c. Project management and technical writing skills are the most desired areas of non-scientific expertise.

  d. Self-motivation is the most important workplace skill to those hiring.

• While these potential employers are three times as likely to say that industry experience is more important to them than academic credentials when it comes to hiring, most also say that holding a Master’s degree is important to advancement in the organization.

• Two-thirds of the organizations offer some form of educational benefits to their employees, but only a quarter say they would offer time release to employees pursuing a PSM degree.

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1 Caveat: Given that this was a purposive sample of potential employers, the findings cannot be generalized to any organizations beyond those in the original list. With such a small number of respondents, the following summary should be seen as a very general statement of the direction of the views of the sample, and it is difficult to know how the views of non-responders may vary. The subgroups in the cross-tabulations are too small to allow for significance testing of differences; therefore, caution should be used in assessing the results of these subcategories. For this reason the subgroup comparisons are characterized without stating the precise percentages.
• The greatest number of employers cited the relevance of the subject matter in a PSM program as the most influential factor in encouraging current employees to pursue a PSM degree.

• The sample covers a range of scientific industries, with engineering best represented at 17% of the group. When we look at responses to the PSM questions and the needs and practices of the organizations, the “outliers” are a small group in the drug development area. Given the very small sample size, it would not be wise to draw conclusions about this industry, beyond understanding that their hiring needs would be expected to differ from engineering organizations.

The PSM Degree

Three quarters (73%) of the potential employers surveyed have never heard of the PSM degree, while fewer than a quarter (22%) say they have. However, it is not clear that even this 22% of respondents have any depth of knowledge about PSM programs. This lack of awareness is seen across the board. A majority of respondents in every job category and from every size and type of organization is unaware of PSM degrees.

Who and what are they looking for?

When asked about hiring job candidates with Master’s degrees, three quarters (74%) of the employer-respondents report hiring engineers—far outpacing all other degree fields. Master’s degree graduates in chemistry (35%), computer science (33%), and physics (31%) are hired by about a third of these organizations, with biology (28%) and business (24%) graduates hired by about one fourth. Engineers are hired by almost all of the industries represented, with the drug development area an exception.
What scientific skills are needed?

This open-ended question asking for scientific skills yielded expected and unexpected responses. In addition to the expected technical and scientific skills specifically requested, respondents chose to mention other non-scientific skills. Beyond the 16 mentions of engineering skills and 12 mentions of computer skills, there were numerous mentions of non-scientific skills including 4 mentions of communications, 3 of writing, and 7 of specific business skills such as management and financial analysis.

What non-scientific skills are needed?

Eighty percent of respondents say that it is important for their scientific staff to also have business skills. The demand for business skills is seen across the board. Even those employer-respondents who say the positions they find most difficult to fill are scientific positions—including technical writing, product development, and research—consider business skills important in their scientific staff.
The vast majority of these organizations, across all subgroups, are looking for expertise in project management and technical writing (81% each). A substantial number (40%) want business expertise and about a third want financial (32%) and/or sales (30%) expertise. Skill in sales appears to be more important to organizations with fewer than 500 employees.

Self-motivation is the most desirable workplace skill (38%) when hiring a new employee, with teamwork and communication skills tied for a distant second at 18% each.

While self-motivation is particularly important to those organizations that give more credence to academic credentials, it is also more important to those that do not offer tuition assistance.
Importance of a Master’s degree

While two thirds (68%) say their organization gives more weight to industry experience than to academic credentials when hiring new employees, holding a Master’s degree is important to advancement within most (65%) organizations. The Master’s degree is more important to those respondents who say that more weight is given to academic credentials, with almost all saying it is important and about half saying very important. However, even among those who say more weight is given to experience at hiring, most say a Master’s degree is at least somewhat important to advancement.

Tuition assistance and time release

Two thirds (68%) of the employer-respondents report that their organization offers educational benefits or tuition assistance. It should not come as a surprise that this benefit is clearly related to the size of the organization. Almost all (96%) organizations of 500 or more employees offer some type of educational benefits or tuition assistance, compared to just over half the small organizations.

Despite general support for the pursuit of higher degrees, only a quarter (23%) of the respondents say their organization would offer release time for an employee to pursue a PSM degree, 33% say they would not, but the largest group of respondents (43%) is unsure. While this finding is related to the lack of knowledge about PSM degrees, and how they could meet their organization’s needs, even among those respondents who have heard of the PSM, only about a third say their organization would offer release time for a PSM program.

Getting staff to participate in PSM program

A majority (52%) of respondents, spanning all of organizations represented, report that the relevance of the subject matter addressed in a PSM program would have the most influence on their organization’s decision to encourage their employees to participate in the program.

Employer interest in involvement in PSM programs

Most (62%) of the employer-respondents expressed an interest in offering internships as part of a PSM program. Approximately half (51%) of the respondents reported an interest in having curricular input, and 44% are interested in teaching a course.
Additional comments

Most of the respondents’ comments reflected on the positive role PSM programs could play in the interface between scientists & engineers and business professionals, and between universities and industry. PSM degrees were also viewed as a useful way to spark economic activity and innovation and a way to acquire skills that might have previously required several degrees to attain. Some suggested specific skills that should be included in PSM curricula, such as technical writing. Several respondents also raised questions about the hours and locations of the programs, when the programs would be implemented, and if any courses could or would be offered online.

Description of sample

The 60 organizations represented span the scientific industries, with engineering topping the list at 17%, the only industry with double-digit participation. Other industries represented by at least 5 respondents (8%) are drug development, energy, and manufacturing.

Almost half the organizations (47%) have fewer than 100 people, while 37% have more than 1000. Very few (15%) have between 100 and 1000 employees.

The respondents were mainly Presidents, VPs and managers. Not surprisingly, the Presidents and CEOs were all from the smaller companies. More than half of the small organizations had a President, CEO or CFO respond, while none of the larger companies did. VPs responded on behalf of about a quarter of the organizations, regardless of size. Managers or supervisors responded on behalf of almost half of the large organizations.