

SciPhD Business Core Competencies

Creating the Vision:

Where is the company going? How does my work fit into that vision?

Technical Scientific: Be prepared to discuss your technical expertise as well as the new areas your work has led you into. You must be able to do this at three levels of scientific literacy:

1. the 30 second “elevator speech” that gets across the major aspects of your expertise- for folks who don't really care, but need to know
2. five sentences that gives a bit more information and context but not too much
3. five paragraphs or so that describes to peers the work you do- with sufficient detail to really explain your scientific expertise

Strategic Thinking: Reaching into the future- the relevance of your work moving forward: Good example is your problem statement or hypothesis for your research. What is the impact of your research into the future. Why is it important?

Innovative: How were you creative in developing your research? Did you develop new approaches to address an important problem? Or did you come up with a problem during your research for which you had to devise a “work-around”? The goal is to demonstrate your ability to come up with creative innovative solutions to issues that come up with your everyday work, and that you are aware that these things happen. You can also use non-science examples of your everyday life in demonstrating your innovative abilities.

Risk management: Understanding the context and ramifications of looking into the future, not just the technical aspects. Think through financial, technical, people, infrastructure requirements. Weighing all aspects of a project-- cost vs impact professionally, socially, etc. Weighing the relative value of publishing vs getting more work done.

Champion/Energy: The ability to make the vision a reality. Self motivation and self discipline to keep a project going when there are obstacles. Ability to motivate others on the team to continue forward. Ability to inspire faith, trust and get committed resources in your project by superiors. You are competing for resources in the business environment and your ability to sell your idea effects your success. Think of persuasive arguments you have made to obtain necessary resources to perform your research. Think of ways you have inspired and motivated others on your research team to work harder, longer, more diligently.

Developing People

Leading a team of workers with their own skill sets, personalities and issues in a way that promotes a functional team environment. This is a critical skill in becoming a team leader and working in cross-matrixed environments. This also draws heavily on Communications skills as well as Champion/Energy capabilities.

Collaboration: The ability to get everyone working towards a common goal. It's about building a team. Making individuals work important to others on the team. Sharing in success. How do you bring your team together and get them to focus on what you want to accomplish? How do you handle conflict for the benefit of the team? For example, how did collaboration add value to your research? How did you encourage collaboration even with challenging personalities? How did you sustain cohesion within your research team?

Enabling: Allowing others to develop and perform- even tasks that you could perform as well or better, in order to develop them as contributors for the betterment of the team. From a business point of view it's not enough for you to be good, but to demonstrate your ability to develop others to reach their potential by enabling them.

Empathy: Appreciation of the circumstances of your team members, not just your own. Your ability to accommodate others needs while still focusing on getting the job done. This also comes into play when managing emotional conflicts between team members. Can you demonstrate your ability to understand their circumstance in finding resolution while maintaining their dignity and motivation to contribute to the project?

Rapport: The ability to create relationships with others: those on your team, customers, suppliers, anyone with whom you interact. Building a trusted network in your business (research) environment. Developing close relationships, trust, and cooperation. This includes not just peers, but competitors, superiors, and support personnel as well (admin staff for example). 360° of trust from all with whom you interact. It also includes being able to relate to individuals with different personalities.

Execution

The practice of taking actions and turning them into real accomplishments towards fulfilling a predefined goal. This encompasses planning, direction, utilization of feedback, and adaptation in order to get things done.

Structure: How you get stuff done. Desired outcomes, the execution plan. Typically research has this sort of built in and you can score pretty highly. There's a plan, a sequence, steps along the way to measure progress and define boundaries. These utilize the basic skills of project management. Examples of how you overcome challenges to guarantee ability to deliver on a project are relevant. Specific examples of how your structured approach efficiently identified problems and allowed you to draw on other competencies to address those problems and move the project forward are relevant.

Tactical: Making the daily and immediate adjustments to keep your work on track. Examples you could cite might include circumstances in which new data indicated the need to make an adjustment in the experimental protocol, or new literature impacted some aspect of your work, or even mundane things like weather or illness of a team member altered the execution of the project. How did you make the necessary adjustments while maintaining the original vision and keeping to your timeline?

Control: Having constant grasp of your data, personnel, progress of the project- always knowing where you are, what the execution plan is, and how you are going to successfully complete the project. What were the processes you had in place so that you always were aware of the status of your project? Think of examples of more challenging projects and how you kept things on track, anticipated problems, and mitigated against those to keep the project moving forward.

Delegation: Part of the skill of “enabling”. Think of examples when you delegated tasks or whole projects to others despite your ability to do the work (perhaps even better than anyone else) and how that delegation developed rapport and built a highly functional team. An important aspect of delegation is providing an opportunity for others to excel and develop their own careers. This is highly valued in industry. If you have examples of students or interns working with you and your allowing them to be the lead on a project for their benefit, this could be a good example to use in your value statement and in interviews.

Achieving Results

The constant pursuit and desire to improve productivity through fine tuning and leveraging the specific skills of your team.

Production: The generation of high quality work. It follows a good work ethic, and follows protocols for execution and analysis. Willingness to tap into others' expertise even though it may be “better” than yours. Willingness to benchmark your work against the best in the field. Think of examples in which you've rejected work generated by your own team because the quality wasn't high enough. How do you set your standards for quality of work? How did this establishment of high quality positively impact your program?

Focused: It's not enough to demand high quality work. It's about staying focused on the goal and not getting distracted, no matter how exciting an unexpected result or event may be. Getting off on tangents is a great example of not staying focused. Aligning your personal goals with your research goals is very important as well. Think about challenges in your work that could have easily disrupted your ability to stay focused and how you resisted that temptation (if you did).

Competition: How do you use competition to drive your work? Can you demonstrate examples in which based on what your competitors were doing, you found ways to excel to an even greater extent while staying focused on the original vision? How do you keep abreast of competition and use that productively to your advantage? Competition refers to both internal and external sources.

Communications

The verbal, nonverbal, emotional and social interactions among people that promote the other five competency areas.

Technical Literacy: This is the ability to adjust the way you talk about your work depending on the audience you are addressing. This primarily focuses on four major areas:

- 1) the 20 second essence of your work that you can explain to get the main point across (also known as the “elevator speech”).
- 2) the slightly more detailed explanation of your work extending out to about a minute for folks in indirect support who need a little more information because they are involved in some way
- 3) the even more detailed information for those in direct support of your project
- 4) explanation to your peers

In all these cases you are focusing on the technical aspects of what you do, but reducing or expanding on the level of detail based on your audience. For example, the lab chief, or a donor to your laboratory's budget may not need or even understand detailed technical explanations but would appreciate the 20 second or one minute “50,000 foot view”, while your advisor, or your peers in lab meeting or collaborators might need or appreciate far more extensive detail. The ability to boil down the essence of your work into 30 seconds is extremely important in business. The chance encounter with a senior executive in your company who asks what you do is an opportunity lost if you can't efficiently describe your project and value to the company.

Style Flexibility: This is the ability to explain your technical work based on the background and personality styles of the people with whom you are interacting. For example, when explaining the value of your work to non-scientists, can you simplify the explanations to their level of understanding by appropriate use of analogies, drawings or other illustrations to get your major points across? Recognizing personality preferences of those with whom you interact are also key to effective communication. Are they more introverted or extroverted? Are they more comfortable with discrete lists and directions, or do they function more effectively when allowed more intuitive freedom? Understanding these personality preferences can dramatically impact your effectiveness in communicating and leading.

Emotional Intelligence: You have control over your emotions regardless of the emotional state of the people with whom you are interacting. When your counterpart gets defensive, can you recognize that and turn it into positive energy? Or do you become defensive and argumentative? Specific examples may be interacting with a faculty member who aggressively criticizes your work. Rather than argue with him/her, you might acknowledge their criticism, complement the insight it provides and then use that complement in making your point. This typically requires battling ego, and exercising restraint and humility.

Social Intelligence: This is the ability to recognize the social capital of the audience you are dealing with and frame your message in context of that capital. For example, if you are talking with a group funding cancer research, you might frame your work in terms of its impact on understanding disease in general, and even mechanisms that may cause cancer in particular. If you are talking with people whose main focus is on fiscal responsibility, you

might focus your message on how advances in your work will lead to lower costs for treatments, and even that your approach to experimentation takes into consideration the costs of doing the actual work so as to minimize expenses. Effectively moving your focus from global relevance (impact on society) down to personal relevance (a friend, son, daughter afflicted with the disease, or financially burdened) based on the social context of your audience is a powerful skill to master. Always ask the question “what is the role of my audience, and how can I make their job easier?”

Financial Acumen

The ability to communicate personal or organizational objectives and behaviors in financial terms.

Return on Investment: This considers all the commitments of dollars, resources, people and time that are put into a project for the purpose of representing an investment by the organization. Expressing the anticipated dollars (or equivalent “value”) as a result of successfully implementing the project represents the Return On Investment (ROI). This would include the total cost of supplies, reagents, animals, etc in performing your studies as well as the personnel time (in dollars) for you, any technicians or other personnel.

Internal Rate of Return: This takes the ROI and quantitates it as an interest rate. Expressing the direct and indirect costs of research in dollars to indicate what the net value of the research is to the organization. This would include both direct and indirect costs of your project, and quantitates the total value as an interest rate or percentage, while also considering the impact internally to the company. For example, tactical process refinements that were realized as part of execution of your project may provide efficiencies for other projects in the company, in addition to any direct revenues realized by the results of the successful completion of the project itself.

Performance Metrics: This is the mapping of the entire workflow activities of the project over time to determine the level of effort for each part of the project vs the return obtained. For example, in studying the genetic bases for a particular disease, activities performed over time might include cell transfections, screening, gene cloning, gene expression, protein expression, and animal functional studies. Those activities can be mapped over time along with the experimental results at each step of the process and the costs for each step to see where the biggest “bang for the buck” is. This is commonly done in pharmaceutical companies as they re-evaluate their processes to identify strong and weak components of their drug discovery pipelines. In screening hundreds or thousands of chemical compounds using sequential assays, results of these analyses can reveal a simple re-ordering of different processes in a pipeline that more efficiently eliminates compounds earlier in the pipeline thus significantly reducing costs.

Managing the Balance Sheet: This is a financial expression of who the company (or laboratory) is and where they are going. It is a standardized reporting system commonly used by investors to gain an understanding of the performance of an organization. In your own lab, the balance sheet would list all personnel, their direct and indirect costs, the costs of all supplies, reagents, and support costs from administration etc. Against that would also be listed revenue streams: grants, institutional support (salary support by the institution, physical plant, etc), any revenues from CRADAs, patents, etc.