

Symbiosis or Synergy: How Entrepreneurs and Universities Can Make Their Relationship Work

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If you are part of a university community – whether professor or student – you and your university are already bonded tightly together, even if you don't realize it. The two of you need each other: the university needs your creativity and the ideas that flow from your research, and you need the university, for legitimacy, for infrastructure and for negotiating power. So a symbiosis between the two of you already exists. What's important for you as entrepreneur is to make the symbiosis work to your advantage. For this to happen, you should understand what connects you and the university to each other, and how the relationship can be not just symbiotic, but synergistic.

Creativity and Invention

The best place to start understanding this relationship is to focus on the most important thing you bring to the university, the creativity that's inside your head. All your work for the university draws on this creativity, whether in the classroom or in the laboratory. Creativity, when directed towards producing something tangible and useful, gives birth to inventions and other innovative products. Such products of your intellect, whether inventions or other creative work, are generally termed "intellectual property." The term "intellectual property" has two connotations: first, it is derived from the creator's mental efforts, so it is intellectual; second, it is a type of property with appropriate legal characteristics, even though it is intangible.

For most researchers, patentable inventions are the most important and valuable type of intellectual property they produce. U.S. patent laws determine what is an invention, legally speaking, and which inventions are patentable. To "invent", in the legal sense of the word, you must accomplish two phases of creativity. You must first develop a concept of the invention in your mind, a task called "conception" in legal terms. Courts have defined conception as "the formation in the mind of an inventor of a definite and permanent idea of the complete and operative invention as it is thereafter to be applied in practice." Conception is the touchstone of inventorship. After conceiving the invention, you must then actualize what you've conceived, a step called "reduction to practice," involving either making an actual prototype of your creation or setting out in a patent application how someone skilled in your field could do so.

Inventorship and Ownership

Because you are the inventor of a creation or innovation – you have conceived it and reduced it to practice – the law assumes that you are also its owner. This is the "property" aspect of intellectual

property. As owner, you can buy, sell, license and otherwise transfer the entirety of the intellectual property or any portion of the rights that it entails. But, even though the law presumes that inventors own what they have invented, your relationship with the university sets this presumption aside. Your university's policies regarding intellectual property set forth the rules regarding ownership of inventions within the university community.

As part of your affiliation with the university, you are bound by its policies regarding intellectual property. You may have explicitly agreed to these policies, or you may have implicitly submitted to them in order to assume your faculty or other academic position. You may in fact be governed by more than one set of policies if you hold multiple appointments – at two universities, for example, or at a medical school and a teaching hospital. University policies typically cover a variety of intellectual property-related topics, including ownership of inventions, the inventor's obligation to disclose inventions to the university, and the inventor's responsibility to cooperate in the patenting process. Consult your university's website to find its intellectual property policy.

Part of a university's intellectual property policy deals with determining the ownership of inventions. The university's basic premise is that, because it has provided you with the tools and the platform for developing your invention, it deserves a share of whatever rewards your creativity earns. Harvard University, for example, asserts its ownership over those inventions made possible by university support, maintaining that "it is reasonable for the University to participate in the fruits of the enterprise and/or be reimbursed for the University's extra or special costs, if such ideas or works are introduced commercially."

By contrast, members of the Harvard community who do not use "assistance from the University" or "substantial University involvement" are entitled to keep any royalty or other financial benefit from their inventions for themselves. As you might imagine, there are gray areas in any policy, and the meaning of such terms as "substantial University involvement" is not clear-cut. An institution can define its ownership rights narrowly or broadly, potentially including as "substantial University involvement" such facilities as email addresses, computer equipment, university-based websites and university graduate assistants, along with more conspicuous facilities like laboratories, experimental animals and support staff. Nonetheless, you may be entitled to own an invention that you create, on your own time for example, and without use of university facilities. Depending on your university's policies, you may need to disclose even such an invention to the university and obtain its permission to proceed with patenting the invention on your own.

Symbiosis to Synergy

The first step in "getting along" with the university as an academic entrepreneur is to understand the rules of the relationship as set forth in the university intellectual property policies. Understanding these rules and abiding by them can avoid disaster. For example, if the policies require you to assign your invention to the university, not doing so in a timely manner may undermine the invention's value by creating a cloud on its title, a lose-lose situation for both you and the university. As another example, refusing to disclose an invention to the university through proper channels may impair the university's ability to seek appropriate patent protection and result in an irretrievable loss of patent rights. The intellectual property policies make explicit the groundrules for your symbiotic relationship with the university. This symbiosis means that you and the university prosper together or not at all.

Universities recognize this symbiosis by means of their royalty schedules. Harvard University, for example, offers creators 35% of the first \$50,000 in royalties their work generates, and 25% of those royalties above \$50,000. Additional royalty percentages flow to the creator's department, with the creator retaining the ability to direct use of half the proceeds. So, even though the university asserts ownership over the intellectual property you've produced, it provides you with a stake that rewards your efforts and incentivizes your future creativity.

Up until this point, you've contributed most of the value to the relationship, by creating an invention useful to society with commercial potential. When your creative efforts are complete, the university begins its work of protecting the invention and exploiting it commercially. From this point forward, the symbiosis between entrepreneur and university should mature into synergy. The university, through its Technology Transfer Office, Office of Technology and Licensing, or the like, assumes responsibility for obtaining patent protection and for finding a way to maximize your creation's economic value. Maximizing economic value may involve licensing the invention, identifying a joint venture partner to co-develop the invention, or setting up a separate enterprise to commercialize the invention. In each of these endeavors, the university can use its reputation and its experience in transactions to get the best terms for the deal it negotiates on your and its behalf. By sorting through the options for economic exploitation, and figuring out the most profitable one, the university greatly enhances the value of the intellectual property you've created.

Advice for Entrepreneurs

Recognizing that the relationship between entrepreneur and university is necessarily symbiotic and ideally synergistic, we have identified a few simple guidelines for making the relationship work. This relationship (like many others in life) is governed by a set of rules – here, the university policies on intellectual property; fortunately, the rules for this relationship (unlike many others in life) are written down. Accordingly, we offer the entrepreneur a few words of advice:

- Familiarize yourself with the university's intellectual property policies
- Cooperate with the university in protecting and exploiting your invention
- Look for creative ways to enhance the value of what you've invented

The university, whose success depends upon yours, should support and encourage you in these efforts.