

## **2006-1352: COOPERATIVES AS MEANS FOR ORGANIZING INTERDISCIPLINARY ENTREPRENEURSHIP TEAMS**

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# Cooperatives as Means for Organizing Interdisciplinary Entrepreneurship Teams

## Abstract

This paper explores the application of the cooperative business model to student led product development efforts. Cooperatives allow for multiple generations of students in the iterative process of product development. It also enables participation and ownership by interdisciplinary participants. The authors have noted a number of different roles that need to be compensated in the ownership structure of an interdisciplinary student product development team. Examples of these roles include idea generator, team driver, product developer, market researcher and technical specialist. As explored in this paper, the cooperative structure allows for different degrees ownership based on an individual's contribution to the project. The authors believe that the cooperative structure will increase entrepreneurial activity on campus by resolving ownership issues and enabling interdisciplinary teams.

Cooperatives are one the four forms of business that include sole proprietorship, partnerships and corporations. The cooperative business model allows a variety of members to contribute differing amounts of labor, resources and capital to a business venture. Although cooperatives have been traditionally used to develop agricultural distribution networks, today cooperatives are involved in products ranging from electricity to internet access. While in Nicaragua in 2005, the authors observed many application of the cooperative model to differing entrepreneurial endeavors. Groups of Nicaraguans pooled their resources to form cooperatives not only for traditional purposes but also to develop new products. New products under development by cooperatives in Nicaragua include water filters, construction materials, sanitation units and clothing apparel. If impoverished Nicaraguans can use cooperatives to develop product, why not college students with limited resources?

## Challenges of Bringing Student Innovation to the Market

Students attempting to bring their ideas to the market face many challenges. Most students do not have the financial or time resources to complete such a large and complex project. Few students have adequate knowledge in all of the required fields. Engineering students with a new sports product know little about the business skills required. This is made even more difficult when students outside of the business or engineering fields have ideas for new product. Unfortunately recent research suggests that students outside of business and engineering have the ideas and tolerance of risk associated with entrepreneurship.<sup>1</sup> The authors have witnessed many promising projects end because of these issues. Sometimes the idea originator can not entice people with the required skills to join the development team. The idea generator does not usually possess the financial resources to pay up front for the required expertise. Nor does the idea generator know how to split ownership of the proposed venture in an equitable manner. Moreover some students with great ideas do not have the desire or passion to pursue their ideas. These students are often willing to let others pursue their idea if they can retain some stake in the venture. Given these realities how can the business enterprise be organized to help students achieve their goals and to foster student led innovation? The next section reviews the four types of business ownership models.

## The Four Types of Business Ownership Models

A sole proprietorship is a single owner form of business. In most cases the owner and the business are considered one and the same. There are a number of advantages to this form of business to the entrepreneur. They include ownership, control, and the potential for decision making agility. Sole proprietorships are also fast and easy to set up and flexible. Arrangements can be made in one business day.

There are several disadvantages of the sole proprietorship arrangement that should be considered by the student entrepreneur. First, all of the student's financial and material assets are at risk. This may not be a problem for a traditional student who does not own much but could be a major issue for non-traditional students who own houses or have families. Second as a sole proprietorship, the entrepreneur will have to pay out of pocket for all of the specialized expertise that is required to bring a product to market. Examples of such expertise include legal, accounting, marketing and engineering. The sole proprietorship often faces limited financial resources in assets and therefore in borrowing power. Of most critical interest to the developing entrepreneurship amongst students is that the sole proprietorship ends with lack of interest or death of the sole proprietor. While death is thankfully not the issue for most entrepreneurs at the university level, changing interests often lead to the demise of an idea. A student may have a promising idea under development but due to financial pressures, parental concern or self doubt may choose not to pursue the idea further. Thus a project that could have been a great learning experience ends. The student takes the potential intellectual property with them into inactivity.

Partnerships are an alternative form of business ownership that allows multiple individuals with equal or varying amounts of interest to own a business. There are many advantages to the partnership model for student entrepreneurs. First, it is easy to set up because little or no legal documentation is required. Of course the requirements vary by state. Second it allows for the disbursements of rewards directly to the partners. This can be used to motivate the ownership team. Since partnerships allow for uneven division of interests, the entrepreneur can take on partners with differing levels of commitment. For instance a silent partner may offer only money, other partners may offer only expertise and some partners may offer only managerial skills. The fact that there are a number of partners often makes attracting capital and other resources easier because the bank or other lender can spread its risk. A partnership still has tremendous flexibility in decision making compared to a corporation. Finally interest is transferable. Thus a student who is helping the initiator of an entrepreneurial project may in fact decide to leave the partnership and transfer their interest to some new partner who has more time or other resources to commit.

Unfortunately there are a number of disadvantages to partnerships. First the partners share the risk of the venture. The decision of one partner may bind the all partners to a decision that could be costly. In a partnership all partners are potentially liable for the debt of the venture. In the university setting what can be done if partners fail to keep contributing to the project? How can the interests of students who need to leave the partnership be valued? What is the role of the university in a partnership?

Corporations are the third business ownership model. There are many advantages and disadvantages to corporations. The most important advantage is that the corporate structure works well for many participants as each participant can have a different level of ownership. Since silent owners are easily accommodated, corporations can easily attract investors. Corporations also provide some protection from legal liability. Generally an investor is not liable for amounts greater than the value his investment. While professional management could occur in any of the four forms it is particularly common in corporations. The corporate structure has an established structure with a variety of defined and distinct roles. Some of those roles are shareholders, directors and officers. Shareholders elect directors and directors appoint officers. Corporate structure also allows for investors to buy in later at a fixed price. These are useful features for mature businesses but can be cumbersome and costly when applied to early stage entrepreneurial ventures.

An entrepreneurial student should consider the substantial disadvantages of the corporate model before choosing this ownership model. First the costs associated with the corporate model are significant. A large financial investment is required to set up a corporation, hire management, hold the required annual meeting, set up the infrastructure to raise money and to value the stock. For the student entrepreneur the most difficult aspect of forming a corporation may be the loss of control. Student entrepreneurs often have a hard time internalizing the notion that it is better to own a small piece of something that goes to the market, than a big piece of something that never reaches the market. Finally, forming the corporation usually assumes that the corporation will control something of value. For many student entrepreneurs that have product ideas the first task is to determine the value of their idea. This phase may be thought of as the “pre intellectual property” phase. Therefore, despite its advantages, corporations are rarely the best choice for student entrepreneurs.

The cooperative form of business has been used successfully for over a century. Cooperatives are found in many areas of business in the United States. Well known cooperatives include the Associated Press, Land of Lakes, Ocean Spray and Sunkist. Cooperative businesses follow seven internationally recognized principles:

- Voluntary and Open Membership
- Democratic Member Control
- Member Economic Participation
- Autonomy and Independence
- Education, Training and Information
- Cooperation among Cooperatives
- Concern for Community<sup>2</sup>

These principles fit well with the values and principles recognized by most universities and colleges in the United States.

In their paper, “Innovative Behavior in Indian Cooperatives; New Product Development in Traditional Sectors,” Job De Haan, Koen Louter and Gerard de Grooth, report that cooperatives work well with the multistage process of innovation, and for the inclusion of persons with different disciplinary backgrounds.<sup>3</sup> This paper has raised the possibility that a properly defined

cooperative ownership structure could support and encourage university entrepreneurs. Since membership to a cooperative is open and voluntary many different kinds of participation can be facilitated and many the different roles on an entrepreneurship team can be rewarded.

An example of how this might work is an engineering student with an idea for a new coffee machine that makes coffee from raw coffee beans will need to form a multi disciplinary team to bring the product to market. Some members of the team will be experts in functional areas like accounting and finance. Other team members may serve as project managers or team leaders. These team members can be motivated to join the team by granting them membership shares in the cooperative. Membership shares may be granted for work performed by a team member or for work performed by a professional service provider such as a lawyer or financial advisor. A faculty member in languages might receive membership shares for working with the team to acquire the beans from a particular country. The university might receive membership shares for providing financial or technical resources beyond that expected in a normal class.

The time students can commit to working on a project will vary from semester to semester. The cooperative structure allows students to move in and out of active and dormant status while protecting the student's claim to a share of the rewards. Furthermore cooperative leadership can change from semester to semester.

There are a number of disadvantages when considering employing the cooperative business model. The cooperative structure requires inputs that are perceived as equal units. A system must be developed for computing the value of different types of contributions. How many membership shares is a financial investment of \$1,000? How many shares is 100 hours of an engineering students time worth? How can an engineering student's time be valued against a marketing student's time? In addition the tracking of inputs over time also presents a problem.

#### Learning from Cooperatives observed in Nicaragua

In the summer of 2005 the authors traveled to Nicaragua and observed many cooperative businesses at the Center for Development in Central America (CDCA) and the United Cooperatives of Mirafior. The CDCA is located in Managua and helps the residents of impoverished developments set up to house victims of hurricane Mitch. The CDCA has helped to foster and grow a number of cooperatives. Further it has represented coffee and other agricultural product cooperatives in the sale of their product to developed nations.

Examples of CDCA cooperatives that the authors observed include, the Women's Sewing Cooperative, the Water Filtration Products cooperative, and the Building Materials cooperative. The sewing cooperative is a primarily female cooperative that produces a variety of apparel products. They sell into the US market. Most importantly the cooperative has empowered the women to come together and to build a business. Why is the cooperative important? As the women tell you not all of the members have continued to belong to the cooperative. Some have left for family reasons. Some have not wanted to put forth the effort that it takes to keep the business going in lean times. The cooperative has even allowed people to effectively go on vacation from their involvement in the business. The flexibility of the cooperative business

structure has many applications to a student run organization where students can be under a variety of pressures.

The filtration cooperative is an example of how people with few resources can come together to develop a product that none of them could have afforded on their own. The cooperative produces ceramic water filters that the local customers can afford. Further as a cooperative they have attracted interns from other countries that have helped with the refinement of their production processes. Water filtration systems are not an agricultural coop but a product that is of real importance in the developing world. Students can learn from this example. Student projects can often attract more attention and interest leading to resources when there is the synergy of a number of students.

The building materials cooperative was at rest when the authors visited the CDCA in Managua. Part of the flexibility of the cooperative business structure is that operations can be suspended if members agree to stop contributing inputs for a while. In this case the cooperative had developed innovative building materials for use in local homes. The material is made from local agricultural products works well but requires large quantities of water to manufacture. Therefore when water is scarce or very expensive the cooperative suspends production. When water becomes available again, the cooperative begins production again. A student run venture may take advantage of the ability to suspend activity.

Several things were learned from these cooperatives. First the ease of entry and exit for members of the cooperative allows the cooperative to be flexible. Second, the ability of the cooperative to attract assistance, and finally that a cooperative can be at rest. All of these are beneficial to entrepreneurial ventures in a college or university setting. Students are not paying to have their tuition used to start businesses alone. While many parents might not argue with owning a successful business on graduation, not every idea will result in a successful business, and not every major allows unlimited amounts of time to work on a venture. The cooperative model may offer a structure that would allow students to work when they are able and keep advancing their business ventures.

### Building Student Innovation with Cooperatives

How do you inspire and feed student innovation? When you have students with innovative ideas how do you help them engage in the entrepreneurial process? How do you fairly compensate all who contribute to the evolving process? The authors have been working in this area for three years and have discovered that it is important to recognize that for a project to be successful, more than one generation of students may be required. For example, engineering students can develop the technology required for a product and then graduate. Much more effort from many more disciplines is required to bring a product to market.

### Multiple Generations of students

Building entrepreneurial efforts usually requires a team effort over a long period of time. If a senior is on a team that initiates a product development project, it is unlikely that the senior will still be there when the product finally hits the market. Another way in which generations of

students may be involved would be the development of a product idea by a theater student. The development process might take the following path; product development by an engineering class, market testing by a business class, return to the engineering school to refine and develop of the product, a return to the business school for more market research, an interdisciplinary team to develop the business plan and so on until the product reaches the market. A third way in which generations of students is that you could have a student group develop a product that would then rest for a while because it was ahead of the market, or no beneficial application was found. A few years later may be an application might be found and the cooperative would allow for new students to resurrect the project and the cooperative.

### Inter disciplinary ownership

The nature of student innovation is that it usually requires interdisciplinary consultation and work. Students may come up with ideas through sheer inspiration, through work in opportunity development exercises,<sup>6</sup> through need, or when handed an idea by a faculty member. Most ideas for a product require others to help in the development of an idea. Suppose a student is developing a product to improve the quality of life of aging baby boomers by helping them out of the car. The engineer is hopefully good on the technology end, but will need market advice, technical advice from a physical therapist, legal advice, and market entry ideas. The list of expertise required is long and varied. The point is that these students and professionals who work on the evolution of this idea will want some ownership reward in exchange for their efforts. In addition, the educational institution who provides specialized machinery, professional staff time beyond the professor student relationship, may want an interest as well. Much like the coffee farmer in Nicaragua there is strength in numbers that allows the idea to get carried forward to the market. Entrepreneurship in the university is by it's nature interdisciplinary and this needs to be recognized in the form of business organization chosen.

### Roles in the Development Process

In the authors work with students, a number of roles have been defined that need to be filled in order for the venture to be successful. The first role in the process is the idea generator who brings forth the idea. Second, a project champion is needed. This person may or may not be the idea generator. The product champion has a vision for the product and along with being visionary has at least two other qualities. They must be good with people as part of this role is to get people to work on the project over doing something else with their time. They also must be a "can do" person. The role of product champion requires this person to believe any obstacle can be overcome. They are optimistic and perceive obstacles as opportunities. Most teams require some kind of marketing expertise of which most important is the market research function. Many other team members with specialized skills and knowledge are also required. The needs for specialized team members changes and evolves as the product moves toward the market.

### Using Cooperatives to Increase Entrepreneurial Activity on Campus

The cooperative structure may offer some new insights into ways of working with students in innovation and entrepreneurship. The cooperative business structure allows for the collective building of intellectual property together as opposed to making it an individualistic process. It

allows the members of the cooperative to recognize and compensate good work and creativity. It works well with student projects as it allows faculty to use a product as a project in a class with succeeding generations of students without worrying about ownership interest. It also permits the organization and the project to be at rest. It provides a flexible structure that could eventually include current students, graduates, local professionals and others all working toward a common goal.

The cooperative can be a way to obtain resources including time, money, expertise, leadership and the space in which to operate. This flexibility is important in the choosing of a business form for an entrepreneurship venture in an academic setting. There are at least four types of business structures to be considered including sole proprietorship, partnership, corporations and cooperatives. While the cooperatives have not been used in product development they do offer many advantages. They could serve as a catalyst in helping student entrepreneurs to be successful.

### Future Work and Challenges

The largest challenge in implementing a cooperative business structure in a product development effort is to develop a fair method for valuing diverse inputs. Next a system to track the progress and ownership of a cooperative will need to be developed. Finally student teams will need to be educated about how to operate a cooperative. Fortunately several cooperative centers around the country can serve as resources to overcome these challenges.

### References

1. Farris, J., Levenburg, N., and Lane, P. "In Search of Innovators in the University Community." Paper presented at the American Society of Engineering Educators Annual Conference, Salt Lake City, Utah, June, 2004.
2. <http://www.ncba.coop/>, The National Cooperative Business Association Web Site.
3. Job De Haan, Koen Louter and Gerard de Grooth, "Innovative Behavior in Indian Cooperatives; New Product Development in Traditional Sectors," Paper presented at the Euroma Conference, 1-17 June, Como Italy and at the International Seminar on Developmental Linkages and Kerala Economy, Cochin University of Science and Technology, India, January 2003.
4. <http://www.bizstats.com/businesses.htm>
5. "Cooperatives at work," produced by the United Nations Department of Public Information, [www.un.org/esa/socdev/poverty/documents/coops\\_at\\_work.pdf](http://www.un.org/esa/socdev/poverty/documents/coops_at_work.pdf).
6. Farris, J. and Lane, P. 2005, "WIP: Teaching Opportunity Identification" FIE annual conference. 35<sup>th</sup> ASEE/IEEE Frontiers in Education Conference October 19 – 22, 2005, Indianapolis, IN.