



Ross School of Business at the University of Michigan

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TITLE : Incubator-sponsored business planning projects at the University of Michigan business school and recommendations for future

**Incubator-Sponsored Business Planning Projects
at the University of Michigan Business School
and Recommendations for Future Development**

by
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A research paper submitted in fulfillment of the requirements for 3.0 credits,
GRADUATE INDEPENDENT RESEARCH PROJECT Winter Term 1999,
Professor Andrew Lawlor, Faculty Supervisor.

Faculty Comments

The Entrepreneurial Track of courses, particularly CS 515 and CS 517, has had an evolving two year relationship with the Tech Farm Incubator in Santa Clara, CA, and the idealab! incubator in Pasadena, CA. Four projects have been executed by 22 students in the 1997 and 1998 Fall terms.

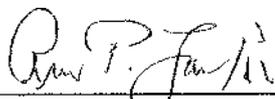
The projects were very successful as student team and class learning experiences, and had excellent value for the two incubators and their four companies as well.

In order to set a process and series of goals for long term nurturing of the relationships with Tech Farm and idealab!, and recruitment of students each Fall, this CS 750 project was initiated to frame the annual requirements for having a minimum of one project from each incubator.

Jason Bairn, who was the team leader of the Kids Online project with idealab! was selected to create the process by interviewing all past student participants, incubator entrepreneurs, and incubator management.

The resulting report will allow us to build an excellent long term relationship and offer challenging team opportunities each Fall.

A grade of Excellent (EX) should be entered for Mr. Bairn at this time.



Andrew Lawfor,
Faculty Advisor
April 29, 1999

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EXECUTIVE SUMMARY

This independent study project grew out of a desire to build on an existing relationship between the University of Michigan Business School and two California-based technology incubators, Idealab! and Techfarm. Through efforts by Ray Tenenbaum (MBA 98) and myself, students at UMBS have been able to work with a total of four incubator portfolio companies as part of the CS515/517 Business Planning courses. This research paper looks back at the relationship and the projects, and seeks to:

1. Provide a review of incubator-sponsored business planning projects at UMBS
2. Analyze past projects and identify key success factors and problems
3. Gauge current interest on the part of both UMBS students and the two incubators in continuing the relationship
4. Make recommendations as to how the relationship between UMBS and the incubators should be maintained in the future

A review of the projects over the past two years indicates that while student satisfaction has been generally high, problems do exist in several areas, including the amount of communication and interaction between the company and the student team, the priority that the companies assigned to the projects, and the suitability of the projects for the business planning class. Company feedback indicated that while satisfaction with the work was very high, increased contact with the student team was also desirable. The analysis also indicated that projects from the Techfarm incubator were almost uniformly unsuitable for the CS515/517 course.

This report notes that while a large number of outside projects already exist for students in CS515/517 to choose from, demand from students for high-technology startup experiences is sufficiently high to warrant maintaining the relationship. I conclude by recommending several steps be taken to improve the relationship between UMBS and the incubators, including:

1. Limit efforts to working with the Idealab! incubator.
2. Implement a two-part relationship management model with UMBS staff or faculty responsibility for building the overall relationship, and student responsibility for soliciting and managing individual projects.
3. Development of materials that can be used to better "sell" Idealab! on the value provided by the student teams.
4. Adhering to a set of project selection criteria.
5. Adhering to a set of **student liaison selection criteria.**

PROJECT OVERVIEW

During the Summer of 1997 an initiative taken by a University of Michigan Business School (UMBS) student, Ray Tenenbaum (MBA '98) led to the establishment of a relationship between UMBS and two California-based incubators: *Idealab!*, based in Pasadena, and *Techfarm*, based in Silicon Valley. The relationship provided two teams of second-year MBA students with an opportunity to evaluate and develop business plans for ventures sponsored by these incubators, for the UMBS corporate strategy classes in business planning and new venture development, CS515 and CS517.

This independent study project was initiated out of a desire to find a way to build on the existing relationship with the two technology incubators, and a need to find a way to transition the responsibilities of securing and promoting business planning projects from one MBA class to the next. Work for this project began in the Summer of 1998, when I contacted Idealab! and Techfarm, and was able to secure two more business planning projects for UMBS students enrolled in the 515/517 courses. The goals of this research paper are to:

6. **Provide a review of incubator-sponsored business planning projects at UMBS.** Through CS515/517, UMBS students have an opportunity to participate in numerous projects that involve outside companies. This report will focus specifically on the role that the two technology incubators have played during the past two years in this process, and will serve as a history of the relationship between UMBS and the incubators.
7. **Analyze past projects and identify key success factors and problems.** The report will discuss the four incubator-sponsored projects that have been completed over the past two years, and identify key success factors, and major areas of difficulty for the student teams, the incubators, and the companies.
8. **Gauge current interest on the part of both UMBS students and the two incubators in continuing the relationship.** To the extent that these projects can be demonstrated to help fulfill the educational goals of the CS515/517 courses, it is desirable to continue the relationship with the incubators. Likewise, the incubators' response will likely be impacted by the value that the student projects have added to the companies for which they develop a plan.
9. Make recommendations as to how the relationship between UMBS and the incubators should be maintained in the future. The report will provide recommendations as to what actions need to be taken by UMBS faculty, staff, and students, if the relationship between UMBS and the incubators is to succeed.

RESEARCH METHODS

Research for this project was conducted primarily through interviews with student and company participants in the incubator projects. 7 of the 10 students who participated in this year's projects were interviewed during March and April 1999 in Ann Arbor, Michigan, and 3 students from last year's projects were interviewed during April 1999 via telephone and/or email. Company and incubator participants from Idealab! were interviewed both by phone and via email during March and April 1999.

Some secondary research was also conducted for this project, primarily for additional information about the technology incubators, their strategies, and their portfolio companies. Sources for this information include:

- Lexis/Nexis Database
- Company and Incubator Web pages
- 1997 UMBS Case Study on Idealab! Incubator
- Trade and popular press articles about technology incubators
- UMBS student club records

INCUBATOR-SPONSORED BUSINESS PLANNING PROJECTS

Business Planning Courses & The Role of Outside Organizations

A key part of the UMBS corporate strategy curriculum is a two part, 14-week course designed to help students investigate the commercial potential of a business. The first course, *CS515 - Getting and Evaluating the Idea for Start-Up Ventures*, facilitates the investigation of the viability of the business concept, and addresses issues such as the characteristics of successful entrepreneurs, environmental trends, support available to a new venture, and the definition and confirmation of the concept's competitive advantage. The second part of the course, *CS517 - Preparing the Business Plan for Start-Up or Turn-Around Venture*, requires the development of a business plan document that is not only suitable for presentation to potential investors, but also will serve as a roadmap of the actions needed to start or turn-around the venture. These plans will typically contain detailed sections on marketing policies, market research, production policies, cost analysis, organizational policies, financial projections, financial sources, and long-term growth plans.

While originally designed to facilitate students' desire to investigating a business of their own design, these courses have also typically offered business concepts for investigation that are provided by outside organizations. These organizations can range from individual inventors and entrepreneurs, to already-functioning companies seeking to investigate the potential for a new product. Geographically, the projects can be as close as the Ann Arbor and University of Michigan community, or as far afield as California or the Middle East. In recent years, up to 40 companies have approached Professor Andrew Lawlor, the faculty

member who teaches the fall semester CS515/517 courses, in the hopes of securing one of the four to seven-person student teams to help them investigate their concept. Typically, only 12 to 15 projects will be started during each semester.

The Role of Incubators

One type of outside organization that has been a source of business planning projects for UMBS classes has been Incubators. Broadly defined, an incubator is an organization that provides a variety of support services to entrepreneurs and start-up companies, in exchange for either an equity stake in the venture, a share of profits if the venture is successful, or both. The UMBS has had a relationship with two incubators based in Israel, as part of the Partnership 2000 program that links communities in the US with communities in Israel for the purposes of Israeli economic development. The Detroit/Ann Arbor area is linked with the area around Nazareth, Israel. UMBS has benefited from this relationship through a generous grant by an UMBS alumnus that enables teams of students to work with Israeli incubators as part of either the Global Projects I or II courses, or as part of the CS515/517 business planning courses.

Until 1997, the Israeli incubators were the only incubator organizations that consistently provided ventures for investigation by the business planning courses. That changed in the Summer of 1997, when Ray Tenenbaum made the initial contact with Idealab! and Techfarm. Through his efforts, two projects were identified, and two teams were formed to evaluate the business concept and develop a business plan. Ray Tenenbaum led both of these teams. In addition to these business plans, the Idealab! incubator was the subject of a case study written for UMBS Professor Alan Afuah's technology and innovation class during the 1997-1998 academic year.

In April 1998, a team of students from an IMAP (now Global Projects I) group was approached by professor Andrew Lawlor to determine if they wanted to make the effort during the next year to continue relationship. One team member, this author, was going to be in California that summer, and had planned to take the class the next year. During the summer of 1998, both incubators were contacted again, and two additional projects were secured. I led one of the teams, while the second was led by another MBA2 student, Irina Doliov.

IDEALAB! AND TECHFARM PROJECTS

This section provides an overview of the Idealab! and Techfarm incubators, details how the projects were secured, and provides a description of the projects and their outcomes.

Incubator Overview - Idealab!

The Idealab! technology incubator, based in Pasadena, California, is a privately-held integrated incubator for starting and growing Internet businesses. Idealab! was founded in

March 1996 by entrepreneur Bill Gross, founder of the children's software company Knowledge Adventure. Idealab currently has more than 20 businesses in various stages of development. Portfolio companies include CitySearch (which had their IPO in 1998), [GoTo.com](#), [eToys.com](#), [Tickets.com](#), and numerous others. Idealab! businesses range in size from three or four employees to the largest (CitySearch) which has over 500 employees and has expanded to over 20 cities worldwide. The vast majority of the ideas investigated by the incubator are originally conceived by Bill Gross himself.

Idealab!'s philosophy is to spin off ideas into individual, highly-focused businesses, and to provide shared services, support, and knowledge to help each of these businesses to succeed. Gross believes that to achieve "speed of execution," it is essential to tap the shared knowledge of an organization that has extensive experience in starting Internet companies. By factoring out these shared resources and knowledge, Idealab!, like any incubator, tries to combine the best features of small, nimble, focused companies, and the resources, financial strength, and knowledge of a much larger organization.

The company provides various services to each Internet start-up company, particularly in the business conceptualization, planning, and launch phases. Idealab! services are primarily in the creative area, and although the firm does provide seed capital to the start-ups as well, it considers itself a "Creative-Capital" firm as opposed to a Venture-Capital firm. The creative services provided include development and technology services, graphic design, business strategy, branding, corporate structure, marketing and competitive research. Each spin-off company is a fully separate entity controlled by the management of that company. Idealab! specifically does not take a controlling interest in each of the companies, but does take an equity stake in return for its start-up capital, technology, and services.

Incubator Overview - Techfarm

Techfarm was launched in 1993 by Gordon Campbell, founder in 1981 of SEEQ technology, and in 1985, founder of CHIPS and Technologies, a company later sold to Intel. The Sunnyvale, CA-based incubator has launched companies with products based on a wide range of technologies, including: hardware for graphics (3dfx, Quantum3D), datanetworking and internet appliances (Coactive, Cobalt Networks), and other software products (Resonate, Netmind, Verano). The company is decidedly less Internet-focused than Idealab!. Like Bill Gross, Gordon Campbell is a key source of ideas for Techfarm companies.

Techfarm provides a full range of start-up services, including financial, research, marketing, etc. The incubator also provides organizational expertise, including finance, administration, legal, marketing, sales and operations, and aids in corporate partner financing and channel development for incubated companies. To-date, only one Techfarm company has gone public. This company, 3dFx, a leading producer of 3-D chipsets used extensively in video cards for PCs. 3dFx is listed on NASDAQ, and has recently announced a merger with Richardson, Texas-based STB Systems. Another Techfarm company, Paraform

¹ Mita Gupta, Jan Kegelberg, Stefan Kunz, and John Larkey. *Idealab! Case Study*. University of Michigan. Business School. 1997.

Technologies, has recently received a \$10M second-round of funding, from Chase Capital, TechFund Capital, and Paul J. Allen. But while Techfarm companies have met with some success, the incubator has not received anywhere near the visibility of Idealab!. This is largely due to the non-consumer, and non-internet focus that Techfarm companies takes, versus Idealab! which has a decidedly consumer-oriented internet-based business model for the vast majority of its companies.

1997 Projects

Ray Tenenbaum first became interested in working with an outside organization in the Fall of 1997. During a meeting of the UMBS Entrepreneur & Venture Capital Club, Ray listened to a presentation by UMBS faculty member Dr. Karen Bantel regarding one of her corporate strategy courses. During this presentation, Dr. Bantel queried the students as to whether or not any were interested in working for a startup. Ray indicated that he was, which led to a series of conversations with Dr. Bantel about working with nascent companies being launched by the University of Michigan's Technology Management Office (TMO). Ray performed some research for the TMO during the summer, however the longer-term projects offered by the TMO did not seem viable. In addition, the TMO did not appear to be pursuing commercialization of their portfolio technologies as aggressively as needed to result in a startup being formed during the next academic year. Another opportunity for working with startups would have to be discovered.

Idealab! and Bandwidth+

Ray's first introduction to Idealab! and Techfarm came after he saw an interview with Bill Gross, founder and Chairman of Idealab! on the Charlie Rose talk show. Bill Gross had spoken of the opportunities on the internet, and emphasized that one of the key problems was the lack of available people to work in these companies. Shortly thereafter, Ray received an issue of the new-ventures magazine *Red Herring* which listed their picks for 1997's top 20 entrepreneurs.² Bill Gross and Techfarm founder Gordon Campbell were in that listing. Ray contacted Idealab! by phone, and then followed up with a letter. In this letter, he asked if Idealab! had any ideas with no resources to investigate them, and offered the services of a team of UMBS MBAs to write a business plan for them. Shortly thereafter, Ray received a message from Jordan Possell, an Idealab! employee (now employed at Idealab! venture *eToys*). For the next 4-6 weeks, Mr. Possell and Ray worked to identify a suitable project. Bandwidth+ was selected - a company in which Bill Gross had already invested \$50,000, but for which little development had taken place.

Bandwidth + was formed in response to bandwidth problems on the internet. The company planned to develop internet compression software packaged as "high-performance bandwidth" solutions that would convert existing internet graphical content into a smaller, and thus more efficient format, thus reducing the bandwidth required for transmission of the initial content. The company's Web Express software would be installed on both the server and client side. Marketing of the product was targeted at high hit-rate sites, such as ESPN,

² *Red Herring*. July, 1997.

in a "pull" strategy; as consumers experienced the faster download times from the test sites, they would in turn demand the same performance from the other sites they visited, thus increasing the company's sales.

Ray's main contact for the Bandwidth+ project was Mr. Possell. Steve Damron, currently the CEO of KidsOnline, became involved in the project towards the very end of the course. The student team eventually out to Pasadena to meet with Bill Gross and make their final presentation. Bandwidth+ was ultimately not successful, due to problems with the core technology, as well as limited interest from the target customers. A complete management team was not formed at the time when the idea was investigated by the UMBS team. The company folded shortly after the business plan was completed.

Techfarm and Quantum 3D

In a similar process as that for Idealab!, Ray sent a letter to Techfarm, and followed up with a phone call to Gordon Campbell. During the summer, Ray met with Mr. Campbell and Kurt Keihacker, a senior Techfarm executive and managing partner of TechFun Capital. They agreed to let Ray's team work on a project. An original plan to work with a 3D animation software company fell through, and the team eventually secured a project with Quantum3D.

Quantum3D had been founded in April 1997 to create and service the advanced 3D graphics accelerator market using technologies from another Techfarm company, 3Dfx Interactive, including the Voodoo Graphics™ and Voodoo Rush™ chipsets. The business plan in particular investigated a specific market opportunity for Quantum3D: a division dedicated to integrating PC-industry standard architectures such as Intel-based processors and motherboards with 3Dfx chipsets for coin-operated and Location Based Entertainment market. Products from this division would have been marketed as the Quicksilver product line. Quantum3D CEO Tom Miller, was the company liaison for the project.

Ray's initial contact with Tom Miller was not a positive one, as Mr. Miller did not see the benefit of the project at the time. He eventually bought into the idea, and provided a significant amount of support to the team. At one point, the company flew the team down to Atlanta, Georgia for an industry conference, where they had the opportunity to meet with Mr. Miller. Unfortunately, the concept did not prove a viable model for QuantumSD and the project was eventually abandoned.

1998 Projects

My interest in business planning projects began as a result of an IMAP course in Winter semester, 1998. The IMAP project was for an Israeli based-company called RTView, which was sponsored by the Naiot Technology Incubator in Nazareth-Illit. Although the original project scope was to write a business plan for RTView, shortly after beginning the project the team discovered that the company had already contracted a local consulting company to write the business plan. As an alternative project, the team developed a market entry

strategy for the company, a plan that was very well received by both RTView and IMAP faculty.

At the end of the IMAP project, the student team was offered a chance to remain together and work on business planning projects from the Techfarm and Idealab! incubators for CS515/517 in the fall semester. Only two team members were interested in doing the project, and I was the only one who would be in California for the summer and therefore able to meet with the incubators. I met Ray Tenenbaum at the end of the semester at the Pryor-Hale Business Plan Awards program, and received two contact names, Steve Damron, with whom Ray had worked on Bandwidth+, and Kurt Keilhacker, at Techfarm, who had worked with team on Quantum3D.

Idealab! and KidsOnline

My Idealab! contact, Steve Damron, had worked at Entertain.net, another Idealab! venture, and was now the CEO of a new project called KidsOnline. Steve and I spent nearly three weeks exchanging emails discussing the project. We also met once in Palo Alto, to finalize the project plans. I had provided him with copies of the course syllabus to help him understand the project. Although a very preliminary business plan had been authored, it was far from comprehensive, and Steve agreed that the project would be of value to KidsOnline.

The KidsOnline concept started as a desire to provide a safe and secure place for children to surf the web. The initial incarnation would provide a broad range of content, advertising, chat rooms, and other child-focused internet media for age ranges two to twelve. The company did not, however, have a firm business model, and went through many incarnations during the course of the project. The student team went beyond just writing a business plan for a fixed technology or concept and had to actually help develop the concept itself. Our initial investigation found the concept to not be viable due to a great deal of competition and poor positioning, although the company was well-funded. The team revised the concept to more of a complete family internet site ("FamilyOnline"), and wrote the business plan based on this model.

The team was able to present the concept during several conference calls with Steve Damron and the creative director, Barbara Isenberg-Wade. Steve Damron was also able to fly out to Ann Arbor for the team's final presentation. Recent conversations with Mr. Damron indicate that while the number of "page hits" on the site has gone up, they have still not decided on what business model to pursue long-term. They are currently considering a move to a more commerce-focused model.

Techfarm and Verano

The Techfarm project began with contacting Kurt Keilhacker. Mr. Keilhacker suggested that I call several Techfarm portfolio companies, including Adaptivity, PicoNetworks, and Verano. I faced some difficulty in identifying a project, primarily because many of the companies (Adaptivity most notably) were too far along in their development to benefit

from the initial research and business planning that the student team would provide. I was finally able to contact Ron Buck, President of Verano towards the end of the summer, and identify what appeared to be a viable project. Like the KidsOnline project, it took several weeks to set expectations appropriately, and communicate the project time frame. After about 3 weeks of communications, a project with Verano was secured.

Verano, based in Mountain View, California, was founded in 1996 to provide technological solutions to the problems of managing "unstructured" content on corporate Intranets. Verano's product, The Illuminar System, provides context and security to that content, allowing users with authorized access to search, view, retrieve, and even move files while maintaining security and discoverability. Seed funding for the firm was provided by TechFund Capital. Like the Quantum3D project, Verano already had a business plan in place at the time of the project. However, their core business was not doing well, so the student team's goal was to investigate the feasibility of entry into the Enterprise Resource Planning document management market. Regrettably, the company ceased communication with the student team shortly after the completion of the CS515 course. The team was neither able to present their findings to the company, nor were they able to receive any feedback.

ANALYSIS OF THE PROJECTS

The following section provides the results of interviews with students involved in all four projects over both years, and feedback from company/incubator staff. Students from the 1998 projects were personally interviewed. Students from the 1997 projects responded to an email version of the survey. Ray Tenenbaum and Steve Damron were interviewed both by phone and by email. Regrettably, neither Techfarm staff nor Verano staff responded to numerous efforts to contact them. Copies of the surveys used in this analysis are provided in appendices C and D. When relevant, differences in findings between 1997 and 1998 project, and between projects from the two incubators will be highlighted.

The Student Experience

Role of the Incubator & the Outside Company

One surprising finding from this study is that the presence of the incubators themselves played a relatively minor role in student's decisions to choose one of the projects. While the presence of an incubator appeared to lend some credibility to the project, students tended to select the projects for one of three reasons:

1. The project was for an outside company, and as such, would provide a more realistic experience than would a student-generated venture idea.
2. The project was one of the few high-technology ventures offered for evaluation and business planning during that year.

3. The location of the projects - California - would provide a networking opportunity for students interested in employment in the region.

Other reasons cited for project selection included the desire to run a team, as well as a desire to work with a specific set of people already committed to one of the projects.

Educational Value

Nearly all students involved indicated that the projects met the course goals and their personal educational goals reasonably well. The only consistent areas of concern were problems that arose with both of the Techfarm-sponsored companies. In this case, the problems came from trying to force what were essentially market entry studies for companies already out of the start-up stage into a start-up-oriented business planning deliverable.

Problems

Problems with the incubator-sponsored projects fell in roughly three categories

- 1 Students felt that they **did not have sufficient contact** with the companies to complete the projects with the degree of comprehensiveness desired. Students cited difficulty in reaching incubator and company staff via telephone and email, with one team (Verano) completely losing touch with their company by the end of the first part of the course.
- 2 A related problem was student concern that **the companies did not consider the student teams and their projects a high priority**. While students recognized that their projects were only one of several issues that the companies were facing, they found the lack of support to be a problem for accurate and timely completion of the project. These problems were noted in both Techfarm projects (Quantum3D & Verano).
- 3 The last major problem area deals with the **suitability of the projects for the course**. Students on both the Quantum3D and the Verano team found the technology involved in the company products very difficult to understand. As a result, teams spent what they believed was too much time getting a baseline understanding of the technology, and not enough time working on the business planning and venture viability research.

Responses in the first two categories applied generally to all projects, in both years, but Techfarm projects were especially problematic. The third category resulted almost entirely from problems with Techfarm projects.

Repeat Behavior

Nearly all students who participated in Ideala!-sponsored projects indicated that they would do a project with Idealab! again. With only one exception, all students on Idealab! projects indicated that they would be willing to do their *specific* project over again. The only reservations voiced about the Idealab! projects is that neither one of the ventures investigated by the student teams appeared to be viable. As a result, students tended to lose enthusiasm for the project during the second part of the course when the business plan itself was under development.

The Incubator & Company Experience

As noted earlier, responses from the participating companies was limited. However, the company feedback is provided from a participant (Steven Damron) who was exposed to the Bandwidth+ business planning materials, and served as a very active company liaison in the KidsOnline project. As such, I believe that this information is relatively representative.

Process & Role of Student Teams

The company found that the process and role of the student teams generally easy to understand, but only after several weeks of working with the team, and repeated reminders about project deliverables and deadlines. The course syllabus was relatively helpful in understanding the process and role of the student teams, however it was rather lengthy and directed towards a student, versus a company sponsor audience. Mr. Damron indicated that a one to two-page process guide would have been helpful. It is interesting to note that this sentiment was echoed by two other company representatives: Ms. Kate Gladney of Adaptivity (a Techfarm company candidate for a 1998 project) and Mr. Ron Buck, CEO of Verano, during initial discussions in the Summer of 1998.

Project Value

Mr. Damron indicated a high degree of satisfaction with the work that the student teams performed. Ray Tenenbaum has also indicated that the corporate sponsors for Bandwidth+ and Quantum3D were also very pleased with the work performed. The most helpful sections of the work appear to be the industry research and literature searches. Mr. Damron also indicated that some of the analyses were also of high quality, especially when students were using classic techniques such as Porter's 5-forces analysis. Mr. Damron noted with respect to the KidsOnline project that the weakest section was the positioning of the venture for potential investors.

Problems

Echoing student concerns. Mr. Damron indicated that the biggest problem he faced with the project was the lack of face-to-face contact between the KidsOnline team and the student team.

CURRENT STATUS OF THE RELATIONSHIP

Idealab! and Techfarm do provide an opportunity to UMBS students to work with real companies, in two of the leading high-technology areas in the United States. However, the incubator relationships are not without problems. Projects from the Techfarm incubator have been uniformly difficult for students to work on, due to both lack of company attention and a very steep technology learning curve. While Idealab! projects are somewhat more

accessible, difficulties still exist with getting sufficient company commitment and focus to result in a good learning experience for the students.

Yet another challenge that has not yet been addressed in this paper is the task of maintaining the relationship with the incubators from year to year. Each year, there is a period of time from roughly January through July where little to no contact exists between UMBS and the incubators. When contact resumes in July or August, it takes nearly four to six weeks to re-contact the incubators, identify, evaluate, and secure business planning projects for CS515/517. This assumes, of course, that a student has been successfully identified at the end of the prior academic year to take on the student liaison role. As I will argue later mechanisms for project and student liaison identification should be revised in light of the experiences over the last two years. In addition, an effort should be made to begin relationship-building with the incubators outside of the CS515/517 project timeframe.

As noted earlier, there is no shortage of projects with outside companies for students enrolled in CS515/517 to work on. Given this adequate supply of projects, and given the difficulties present in managing the incubator relationships and securing the projects, there needs to be a clear, compelling reason to continue the effort required to maintain these relationships in the future. If such a case can be made, it must be found in:

- A clear indication that student interest in entrepreneurship remains high.
- An equally clear indication that interest in high-technology exists.
- Initiatives on the part of UMBS to improve its focus on entrepreneurship
- An interest in maintaining a relationship with high-technology areas in California

As will be demonstrated below, these conditions do, in fact, appear to exist.

UMBS Entrepreneurship and High-Technology Education

At the end of the 1998-1999 academic year, interest in entrepreneurship, and specifically, interest in technology start-ups, does appear to be at an all-time high at UMBS. This heightened level of interest can be found in several areas:

Entrepreneurial Track & Center for Entrepreneurial Studies

For several years, UMBS has offered an "entrepreneurial track"—a series of courses designed to assist students with their own business idea who wished to commercialize it upon graduation. UMBS has decided to revise this track, and along with it, launch a new center designed to increase the school's focus and reputation in this field. The new Center for Entrepreneurial Studies will be headed by Tom Kinnear, a former VP of Business Development for the University of Michigan, and a chaired member of the UMBS marketing faculty. It is expected to be formally announced in May 1999.

Wolverine Venture Fund

The Wolverine Venture Fund was founded in 1998 to provide alumni with an alternative to traditional gift-giving, earn a venture rate of return for UMBS, and provide a forum for educating students in processes associated with venture investment. Students have a presence on the investment committee, and play a very active role in the selection and review of firms. Student teams also can work, via independent studies, on projects to evaluate businesses, or provide portfolio companies with business assistance.

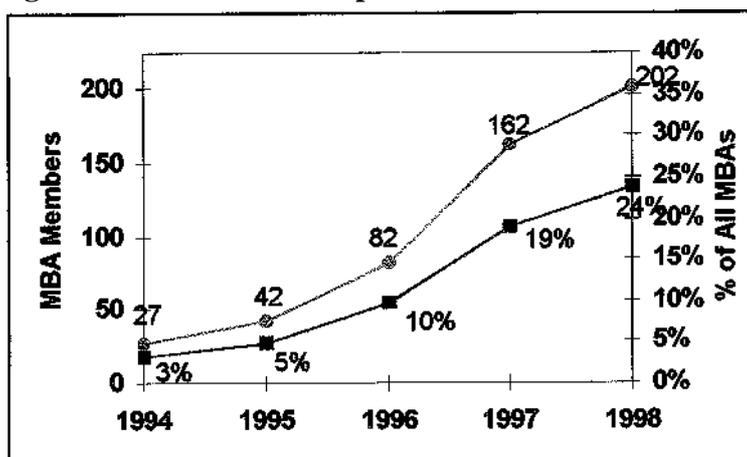
Enrollment in CS515/517

Additional evidence for high student interest in entrepreneurship can be found in the number of students enrolled in the CS515/517 courses as a percentage of the total UMBS population. The CS515/517 course is the "core" of the entrepreneurship program. The courses offered during the Fall semester consistently enroll 65 to 80 students, working on anywhere from 12 to 20 projects. For Fall 1999, nearly 1/4 of the MBA2 class, 124 students, have bid for the 80 seats available.⁴

Membership in High-Tech/Telecom Club

Student clubs are yet another indicator of where student interests lie. The dramatic increase in the membership of the High-Tech/Telecom Club (HTTC) indicates the high level of interests in this field. Since its founding in 1994, membership in the HTTC has grown faster than that of any other club, either disciplinary (marketing, finance) or industry (consulting, healthcare). As shown below in Figure 1, membership has nearly doubled every year, and total membership in 1998/1999 constituted nearly one-quarter of the entire MBA population.

Figure 1: HTTC Membership 1994 - 1998⁵



³ I had the opportunity during the 1998-1999 academic year to lead a team of three students in a project to evaluate a company that was spun out of the University of Michigan Medical Center. At least three other student teams have evaluated businesses for the WVF in the past year.

⁴ Andrew Lawlor, Adjunct Professor, UMBS, April 1999.

⁵ High-Tech/Telecom Club records, April, 1999.

Interest in UMBS Presence in California

In response to increased student interest in Silicon Valley technology companies, and as part of the 75th Anniversary Challenge. UMBS will be investigating the feasibility of a West Coast Technology Center.⁶ The purposes of this Center, as articulated by Ken Pulverman, UMBS MBA class of 2000, the student who is leading the feasibility study, is to create a bridge between UMBS and Silicon Valley for the purposes of:

- Placing more students in Silicon Valley (for internships and full-time positions)
- Attracting more students with a technology background to UMBS
- Providing a mechanism to attract prominent speakers and educators
- Creating more accessibility for alumni

While UMBS may be able to identify technology projects in and around the Ann Arbor area, the attractiveness of a California presence, either through a center or through contacts at technology incubators, cannot be understated. As noted by several students who signed up for the Idealab! and Techfarm projects, the networking potential was a major driver of their selection process.

Open Issues

Based on the above evidence, it appears that attempting to maintain the relationship with at least one of the incubators is warranted. There is a clear interest on the part of students and UMBS in increasing our exposure to and presence in the world of high-technology and entrepreneurship. Furthermore, interest in building bridges to California-based technology companies is also high. Finally, discussions with Steve Damron indicated that it is likely that Idealab! would make another project available to a student team, provided that a suitable company could be identified. The open issues are then as follows:

- *With which incubator(s) do we go forward?* Are both incubators suitable for solicitation for projects? Does one incubator represent a better "fit" for CS515/517 than the other?
- *How do we manage the relationship with the incubators throughout the course of the year?* Project management is one issue, however another issue of the long-term relationship needs to be addressed.
- *How do we select the companies?* Once an incubator is selected, and assuming that we can establish a relationship, how do we screen the projects to ensure that appropriate ones are made available to the students, and inappropriate ones are filtered out?
- How do we identify and select student liaisons to work with the incubators?

Based upon student and company suggestions, and upon the experience of Ray Tenenbaum and myself, the final section will discuss these issues and make specific recommendations as to how they might be addressed.

Ken Pulverman, MBA Candidate, UMBS, April 1999.

RECOMMENDATIONS

Incubator Selection

It can be seen from the discussion of student project experiences that a qualitative distinction exists between Idealab!- and Techfarm-sponsored projects. Idealab! projects seem on the whole to be more closely suited for inclusion as projects for CS515/517. The following table illustrates this point in greater detail:

Table 1: Idealab! vs. Techfarm

Criteria^	Idealab!	Techfarm^
Company Developmental Stage	Companies are primarily in very early startup stage. Many are still in "idea" stage, and have not had any formal business planning.	Fewer, more mature companies. Many have business plans, few are truly "new" ideas.
Technology "Learning Curve"	Primarily consumer-focused internet web sites.	Highly technical software and hardware companies, especially graphics and document management software.
Willingness to Use Student Team Output	Both companies utilized student materials to a great extent.	Mixed. Quantum3D used student information, but Verano ignored team.
Accessibility of staff	Medium to Low. Good contacts exist with CEO of KidsOnline company, other contacts have been identified.	Very poor. Verano student team lost contact with company. Incubator contact has not appeared willing to respond.
Location	In Los Angeles area. Not as ideal for Silicon Valley focus.	Ideal location in Silicon Valley.

Based on these observations, my recommendation is that UMBS focus its efforts on building and cultivating the relationship with the Idealab! incubator. Idealab! seems to be the most likely candidate for a consistent supply of suitable projects for students to work on in the Fall and perhaps the Winter CS515/517 courses. If contact is reestablished with Techfarm, then an additional set of projects might be possible. However the issues and concerns noted above should be discussed with Techfarm staff at length to ensure that a repeat performance does not occur.

Relationship and Project Management

While the individual student teams appear to have done a good job in managing the relationship with the Idealab! portfolio companies, we have not done as good a job in maintaining continuity in the relationship with Idealab! itself. While this has not hindered our ability to secure projects to-date, it may in the future. Right now, our ability to secure additional projects is based entirely upon contacts with relatively transient Idealab! portfolio company staff. Contact is made during the summer months, culminating in a three to five

week period where projects are reviewed and finally selected. After the project ends, the incubator typically has no contact with UMBS until nearly *eight months* later in July or August when the next student liaison attempts to make contact again.

While this has been successful in making one transition from 1997 to 1998 I do not believe that it is sufficient in order to maintain the relationship over time. Indeed, if we are to expand our relationship with Idealab! to the point where several projects might be made available, ***a two-part relationship management model should be implemented to manage (1) the overall relationship, and (2) the individual projects.*** In this model, a university representative would coordinate and seek to develop the long-term relationship, while students would still bear the responsibility of project management and project identification. (A timeline for this process is found in Appendix A.)

Relationship Management

Ideally, a senior UMBS faculty member in the Corporate Strategy &/or Entrepreneurship program could be designated to contact the Idealab! incubator during the next few months to better assess the incubator's interest in additional projects, as well as presenting the equivalent of a "sales pitch" for the student CS515/517 courses. (See section on *Project Solicitation*, below.) This individual would have responsibility for being the main point of contact between UMBS and the incubator, and should be able to facilitate the identification of student project leaders. Professor Andrew Lawlor is one obvious choice for this role, however a major risk is the time commitment required for managing the Global Projects course may preclude his ability to manage this relationship as well. Dr. Bantel represents yet another choice, however as faculty representative of the Wolverine Venture Fund, her time may also be constrained.

Project Management

If the Relationship Management recommendation can be implemented during the next few months, by the end of summer 1999, a student liaison should be able to call upon one or more "developed" contacts at the incubator to solicit them for projects and not have to completely re-sell the concept all over again. The student would still bear the responsibility for identifying an appropriate project if one has not already been independently identified. How this student would be identified and selected is discussed below. Note that there is a critical time path that begins at the end of July and ends with project and team selection at the end of August/ beginning of September. Appendix A provides the details of this timeline, and also offers a timeline for running projects in both Fall and Winter term.

Project Solicitation

One of the key difficulties that UMBS will face going forward is that we do not have a "flag to wave" that would encourage an incubator to continue the relationship. By this, I mean that none of the ventures that UMBS teams have investigated have either been able to (or have been interested in) implementing the strategies and tactics described in the student-

developed business plans. This is not, I believe, a reflection on the quality of the work performed by the student teams. Rather, the viability of these enterprises may have been questionable.⁷

As a result, *UMBS must sell the incubators on the value that the student teams can provide. I recommend that this be done by developing a short letter or set of materials similar to that delivered to companies involved in the MAP program, that could be sent by student project leaders as they solicit projects from portfolio companies.* Materials should ideally include the following information:

1. A brief description of CS515/517 course and the deliverables produced at the end of each term.
2. Highlights of projects that have been done for other companies and associated benefits. Benefits include reduction of risk through in-depth analysis, objective viewpoint provided by student teams, skilled labor at little cost to company.
3. Clear information about the company commitment required.
4. Timing of project deliverables.
5. Contact information.

Developing these materials will not only give company and incubator staff a clearer sense of what benefits projects can bring, but will also help student liaisons better articulate the benefits to prospective companies.

Project Selection Criteria

Based upon feedback from the student teams, *the following criteria should be used for selecting projects* that will provide students with a venture concept that is manageable within the scope of the CS515/517 courses.

Table 2: Project Selection Criteria

Criteria	Description-
Stage of Company	Companies should be in what has been termed the "survival" stage of development. Ideally, only a basic idea or concept will be formed, with a nascent technology or product. Little to no business planning should have taken place to this point.
Suitability of Project	The company should be in need of a full business plan, as opposed to a marketing plan or investigation of a market segment. This requirement is to address problems faced by Techfarm teams. Students had a lower quality learning experience from having to force marketing plans into a business plan framework.

⁷ This observation seems to be borne out by the recent history of the four companies involved. Bandwidth+ is no longer in existence, Quantum3D dropped the idea for the division that was the subject of the student plan, Verano has met with little success in its attempt to penetrate the ERP market, and KidsOnline has yet to settle on a business model, after nearly 12 months of investigation and development.

Criteria	Description
Type of Technology	The technology involved should be relatively accessible to MBA students. Consumer-focused internet models, for example, are a good option. If the company product involves complex software or hardware, the student teams must include someone with a very strong technical skill set who can help their teammates understand the technical issues.
Commitment to Support Team	The company must be willing to commit to provide a level of support for the student team which should include at a minimum: (1) designation of a company liaison, (2) regular conference calls with the team, (3) an opportunity to meet with the team via videoconference or face-to-face meeting, (4) allowing the student team to present their findings to company management.
Understanding of Team Role	The company must demonstrate an understanding of the role of the student team, the deliverables that will be produced, and when they will be completed. The student liaison has a primary role in ensuring that the company understands the team role.
Willingness to Provide Feedback	The company should be willing to provide periodic feedback to the student team after completion of each project deliverable.

Student Liaison Selection Criteria

Even if a the relationship between UMBS and the incubator reaches a stage where it exists independent of individual projects, *student liaisons should still be used to contact, and select the individual companies and projects.* This will preserve the networking benefits and educational experience that contacting and working with incubator and company staff to define the business planning project can provide. While most UMBS MBA students will be able to handle the responsibilities well, a few suggestions in light of my own and Ray Tenenbaum's experience may be warranted.:

1. The student should be planning a summer internship in California, or be prepared to make at least one trip to the area during the summer in order to meet with company and incubator staff.
2. The student should be prepared to spend the extra time and effort to secure the project in addition to any summer internship responsibilities. This can take as long as five weeks.
3. The student should have a sufficient grasp of technology to enable him or her to recognize when a product may be too complex for their classmates to understand.
4. The student should demonstrate exceptional oral and written communications skills.
5. Ideally, the student should have experience leading a student project team prior to this project. Leadership of a Global Projects or MAP team would be appropriate.
6. The student should be prepared to make the CS515/517 course a priority for their Fall semester. Enrollment in more than 5 classes total during any one seven-week period while taking CSS 15/517 is strongly discouraged.

CONCLUSION

Implementation of the recommendations noted above should result in the relationship between Idealab! and UMBS to grow over time, and may eventually serve as not only a source of CS515/517 projects, but potentially as a source of internship and employment for UMBS students. It is possible that this can still be achieved through a more minor modification of the status quo; implementation of the Project Selection Criteria alone, combined with aggressive efforts by another highly motivated MBA student may be able to continue securing projects for UMBS students. However, as Idealab! continues to grow in popularity, UMBS will be forced to compete with other MBA programs who may have similar interest in business planning projects with the incubator. Without the advantage of geographic proximity enjoyed by California programs, I believe that it will take a concerted effort to develop a long-term relationship if UMBS students are to continue to enjoy the challenge and opportunities that these projects have provided over the past two years.

APPENDICES

Appendix A: Current and Proposed Yearly Project Lifecycle

Current Project Lifecycle

July/August	Early September	Sept. – December	January – April	April	May - July
Student Liaison contacts Incubator, arranges project. (4-6 weeks)	Project team recruited. (2 weeks)	CS515/517 (20 weeks)	GAP in relationship (4 months)	New student Liaison identified (2 weeks)	GAP in relationship (3 Months)

Proposed Project Lifecycle – Fall Semester Course only

Management Team	July August	Early Sept.	Sept. – Dec.	Jan.	January – April	April	April – July
UMBS/Incubator Relationship Mgt.	Works with student liaison to identify contact. Reviews and approves project.	Monitors team selection.	Contacts incubator at project mid-point for "quality check." Also attends final presentation, if possible.	Follows up with Incubator post-project for debriefing.	Maintains periodic contact with incubator as needed.	Identifies new Student Liaison	Meets with Incubator to "resell" program and begin to identify projects.
Student Liaison	Contacts Incubator, evaluates and secures project. (3-4 weeks)	Project team recruited. (2 wks)	CS515/517 (20 weeks)		Helps to identify new student liaison for next year's projects.	New student Liaison identified (2 wks)	

Appendix A (Continued)

Proposed Project Lifecycle - Fall and Winter Semester Courses

Management Team	July August	Early Sept.	Sept. – Dec.	Jan.	January – April	April	April – July
UMBS/Incubator Relationship Mgt.	Works with student liaison to identify contact. Reviews and approves project.	Monitors team selection.	Contacts incubator at project mid-point for "quality check." Also attends final presentation, if possible. Identifies Winter Semester Liaison, helps identify contacts, review and approves project.	Follows up with Incubator post-project for debriefing. Monitors team selection.	Maintains periodic contact with incubator as needed. Contacts incubator at project mid-point for "quality check." Also attends final presentation, if possible.	Identifies new Student Liaison. Follows up with Incubator post-project for debriefing.	Meets with Incubator to "resell" program and begin to identify projects.
Student Liaison: Fall Semester	Student Liaison contacts Incubator, evaluates and secures project. (3-4 weeks)	Project team recruited. (2 wks)	CS515/517 (20 weeks) Helps identify liaison for Winter semester projects. (Dec.)		Helps to identify new student liaison for next year's projects.	New Fall student Liaison identified (2 wks)	
Student Liaison: Winter Semester			Student Liaison identified (December) Student Liaison contacts Incubator, evaluates and secures project. (3-4 weeks)	Project team recruited. (2 weeks)	CS515/517 (20 weeks) Works w/Fall Semester Liaison to identify student for next year's projects	New Fall student Liaison identified (2 wks)	

Note: Blue text represents activities associated with Fall Semester courses, Green text represents activities associated with Winter Semester courses. Black text represents activities common across both semesters.

Appendix B: Contact Names

Idealab!

130 West Union Street
Pasadena, CA 91103
Tel: 626-585-6900
Fax: 626-535-2701
Web: www.idealab.com

Idealab! Contacts

Steve Damron - CEO
KidsOnline
130 West Union Street
Pasadena, CA 91103
Tel: 626-535-2858
email: steve@kidsonline.com
damron@panix.com

Marcia Goodstein - COO
Idealab!
130 West Union Street
Pasadena, CA 91103
Tel: 626-585-6900
email: marcia@idealab.com

Tech farm

111 W. Evelyn Avenue Suite 101
Sunnyvale, CA 94086
Tel: 408-720-7080
Fax: 408-720-7090
Web: www.techfarm.com

Techfarm Contacts

Kurt Keilhacker - Managing Partner
TechFund Capital
111 W. Evelyn Avenue, Suite 101
Sunnyvale, CA 94086
Tel: 408-720-7082
email: kak@techfundcapital.com

Student Teams -1997

Bandwidth+

Ray Tenenbaum (Team Leader)
Associate -- Booz-Allen Hamilton, San Francisco
Tel: 415-674-9974
email: tenenbaum_ray@bah.com

Jim Bunn
Dan Calogne
Lynda Ferrari
John Larkey
Kitty Neumark

Quantum3D

Ray Tenenbaum (Team Leader)
Catherine Crane
Todd Garland
William Johnson
Christopher Perrigo

Student Teams -1998

KidsOnline

Jason Bairn (Team Leader)
Business Planning Manager - Lucent Technologies, Holmdel, NJ
email: jabaim@earthlink.net

Chris Foley
Heather Kingsbury
Rich Lesperance
Linda Pan

Verano

Irina Doliov (Team Leader)

Cameron Adams
Greg Gilman (CS515 only)
John Jaddou
Violetta Sit

Appendix C: Student Survey Form

Jason Bairn
Incubator Research Project
CS 750 - Winter 1999

Student Interview Summary

Student:	
Date:	
Project:	

1) Role of incubator & outside company: What impact did the involvement of an incubator have on your choice of business planning project at the beginning of the course? What role did the incubator play in your decision-making process? Did the presence of an outside company have an impact on your decision? Were you all adverse to working on a student-conceived idea?

2) Course Goals: How well do you believe the business planning project met the goals and objectives of the business planning course? (Discuss this specific project, as well as the incubator-sponsored format in general.)

3) Personal Goals: How well did the project meet your personal goals for the course?

4) Incubator/Venture Staff: What was your impression of the incubator and venture staff? What role did they play in the project?

5) Problems: What do you believe could be done to address any problems that existed in the incubator/UMBS relationship? What could be improved?

6) Other Opportunities: Is there a better/different/additional context in which the UMBS/Incubator relationship can be developed?

7) In retrospect, if you could make the decision to do an incubator-sponsored project all over again, would you choose to do one? Would you choose to do your SPECIFIC project over again?

Appendix D: Incubator/Company Survey Form

Jason Baim
Incubator Research Project
CS 750 - Winter 1999

Incubator/Company Interview Summary

Subject:	
Title:	
Project:	

1) Nature of Project: How well do you feel you understood the nature of the business planning project and the process, both initially, and by the end of the course? Do you feel that a better explanation was needed?

2) Satisfaction: What is your overall level of satisfaction with the project and the process? Did it or did it not meet your expectations or needs? Why or Why Not?

3) Problems: What do you feel were the biggest difficulties you faced in working with the student team? How do you think that these problems could have been addressed?

4) Other Schools: Has (Incubator) established any relationships with other business schools? What is the nature of these relationships, and who is the main contact at these schools? (A student, faculty, dean, etc.)

5) Going Forward: What is your sense of the level of interest at Idealab in going forward with the existing relationship with the Michigan Business School?

6) Contact: Who would be the appropriate contact person for arranging future business planning projects?