



START-UP GUIDE

2020



UTRGVTM

.....
Research, Innovation,
& Technology
Commercialization

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1. INTRODUCTION

UTRGV's Start-up guide is designed to deliver an overview of key information that may serve you well as you commence your journey of making a start-up from the innovations pioneered from your research at UTRGV.

Adhering to UTRGV's mission statement to commercialize the University's discoveries, this guide will help UTRGV entrepreneurs, students, and inventors in successfully creating a start-up. The guide is designed to answer your questions on starting a company based on the intellectual property owned by the University. Although this guide will not provide all the answers, it will become a starting point in engaging a conversation with UTRGV's Office of Technology Commercialization and the UTRGV business incubators ('Center for Innovation and Commercialization' or the 'Entrepreneurship and Commercialization Center') as we assist in your entrepreneurial journey.

Sizable sections from this document are taken with permission from Northwestern University's startup resources and The Founders Pie section by Frank Demmler, Adjunct Professor of Entrepreneurship, Carnegie Mellon University, as mentioned in the references section of this Start-up guide.

UTRGV MISSION STATEMENT

"To transform the Rio Grande Valley, the Americas, and the world through an innovative and accessible educational environment that promotes student success, research, creative works, health and well-being, community engagement, sustainable development, and commercialization of university discoveries."

2. UTRGV ENTREPRENEURS STARTING A COMPANY

An important step in starting a company is to clarify the role that the academic entrepreneur will be able to play and the steps to move the inventions to the company. These issues can vary widely depending on the nature of your startup and your own background, desires and interests. However, there are a few things to keep in mind as you consider starting this new venture.

UTRGV, like all academic institutions, has a variety of rules that may be applicable to a researcher's plans to start a company, including policies on intellectual property, conflict of interest, conflict of commitment, sponsored research, and outside consulting. Most UTRGV policies can be found at www.utrgv.edu/hop/handbook. Gaining University approval to start a new company is based on the full disclosure of proposed activities as they may pertain to these policies. The Office of Technology Commercialization (OTC) can help with several resources relevant in forming the company.

The encouragement and support of startup company formation by UTRGV does not change UTRGV's other policies, which remain fundamental to the University and its governance, such as the policies on conflict of interest, consulting, and other contained in the faculty handbook and elsewhere.

UTRGV employees on full time appointment or on partial leave (including half-time leave) may not be operating officers of such a commercial licensee. The positions of an operating officer, particularly in a startup, are normally considered to be "all-consuming" and would therefore create a conflict of commitment with the university appointment. Such positions include, without limitation, those of President, Vice President, Chief Executive Officer (CEO), Chief Operating Officer (COO) and Chief Financial Officer (CFO). "Allowed" positions include: part-time employment (other than operating officers' positions) in such a company which does not interfere with the UTRGV appointment; consulting within the provisions of UTRGV's consulting policy, membership or chairmanship of a technical advisory board; membership or chairmanship on a company's board of directors.

UTRGV faculty who wish to see the creation of a startup company but remain primarily committed to their UTRGV appointment should arrange for the employment of a CEO to take on the task of organizing and managing the startup.

The first three steps for the academic employees contemplating the formation of a new company based on their research are to:

1. Disclose the invention to the OTC,
2. Disclose potential conflicts of interest/effort to the UTRGV conflicts of interest (COI) officer, and
3. Familiarize themselves with UTRGV's licensing agreements.

INVENTION DISCLOSURE

If the basis for starting the company is a discovery/invention made resulting from research, an invention disclosure needs to be submitted to OTC. If this is your first interaction with OTC, it may be helpful to consult with an OTC invention manager who handles similar technologies in advance to submitting the

disclosure. OTC will determine whether there is protectable intellectual property (IP) associated with the discovery. Invention disclosure forms and other information can be found at: <https://www.utrgv.edu/got-ip>

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OTC has the responsibility to decide whether to pursue intellectual property protection or not. If UTRGV decides not to pursue IP protection, the invention may be released to the inventor, and the inventor will be free to pursue IP on his /her own. If the invention is released, then the inventor will also be responsible for the legal costs associated with the IP. If the invention is released, the faculty are not allowed to continue developing the IP using UTRGV resources. If UTRGV decides to protect the invention, it will cover the legal costs necessary to file a patent application, register copyrights, or otherwise protect the invention. Once issued UTRGV has applied for patent protection, a startup may license the technology from UTRGV to gain the rights to develop and commercialize it. This process is broadly described as “technology transfer.”

CONFLICTS DISCLOSURE

Conflicts are a hot topic in the national media, professional organizations, and journals, as well as in hallway gossip. Being accused of having a conflict can severely damage one’s reputation and future prospects. Federal agencies and academic entities have become quite attentive in enforcing their conflicts policies. More details about conflicts/compliance can be found in the later chapters of this document.

Conflict-of-commitment occurs when outside activities interfere with an individual’s responsibilities under his or her academic position. Typically, institutional consulting policies allow academic personnel to spend a set amount of time per week or month doing outside professional work, which may include helping to launch a new company.

Conflict-of-interest exists when an individual’s personal interests (e.g., equity holdings in a startup company, outside employment with board participation in the startup) are perceived to influence that person’s judgment when exercising his or her academic employment duties. Institutions require that the individual discloses and manages such potential conflicts. Because conflict-of-interest management can be a complicated business, especially if a researcher contemplates a startup company while remaining an academic employee, it is essential that the constraints on permissible activities are well understood. Conflict-of-interest management plans are, above all, concerned with protecting vulnerable parties, such as graduate students and human subjects participating in the research who are under charge of the academic entrepreneur.

Inventors should consult with their department chair, dean, and COI officer as soon as they are ready to get serious about forming a new company, to lay out plans and receive feedback. What is most important is that it is not about whether you think there is a conflict or not, but whether someone else might perceive one. When in doubt, disclose. It can save you a lot of heartache later on.

DISCLOSING INTELLECTUAL PROPERTY OR INVENTION INFORMATION

Once you decide to start a business, it is important to be careful on how much information is being disclosed to the public. Public disclosures could limit your ability to obtain patent rights, and might pose the risk that somebody will copy your ideas. If you are in a startup but have not licensed the invention, please consult UTRGV OTC before making any public disclosures. The OTC will let you know if signing a Non-Disclosure Agreement (NDA) is necessary.

In general, it is wise not to provide too many details of the invention when communicating with an external party. Even when common interests are clear and further and more serious discussion is indicated, it is not necessary to provide all the details about the invention or the company. Most investors often do not want to learn confidential information until they have moved onto the stage of “due diligence” and are seriously contemplating an investment. At that point, if the startup has already optioned or licensed the technology, they should already have a template confidentiality (nondisclosure) agreement.

3. SHOULD I BE STARTING A COMPANY?

Markets are driven by the profits that are generated through products and services. Evidently, there is a distinct difference between corporate entrepreneurs and academic entrepreneurs; the former are often motivated by the market, while the latter are driven by technology. The distinction between the two is that a corporate culture focuses on how technologies respond to existing market needs, whereas academic entrepreneurs focus on cutting-edge technologies which drive the market. Evidently, only a few inventions may be suitable to create a startup. Inventions may advance more rapidly in a focused startup than in a lab or large company. OTC can assist you with analyzing various factors that could lead to commercialization, such as:

- Demand for your core technology
- Identification of your competition
- Interest from existing companies for licensing
- Availability of capital
- Level of commitment & involvement of inventors
- Support for the presence of a true business champion
- Passion, experience, and drive of the startup's executive team

WHEN IS THE TIME TO START A COMPANY?

- Raising enough capital to cover 2 to 3 years of operations
- Focusing more on the market need and less on the stage of development for the product/service

Researchers get so excited about the idea of forming a company that they often lose sight of the hard road ahead. It is easy to overlook the fundamentals of building a successful business, such as favorable timing. While there is no formula for determining the proper time to start a new company, raising enough capital to cover two to three years of operations may be a good rule of thumb. The "right" time has less to do with the stage of research than with the capital markets. Academic research discoveries are generally quite far from being products and have increased chances of dying during development. Therefore, the pathway from discovery to product entails risk, which presents a significant hurdle when it comes to raising funds. The more embryonic the discovery, the higher the risk.

In the 90's it was easier to start up a company, even with very early stage research. Currently, investors prefer investing in companies that are much farther along in product development, for example those with drugs in mid-stage human clinical trials, or those with successful beta tests of their software.

Investors can be stratified according to their comfort levels with the associated risks at each of the stages of the product development sequence. Those willing to invest early (high-risk) are often called "seed" investors, and those at the later (lower-risk) stages are called "mezzanine" investors. It is important that the researcher understands the risks associated with getting their project to the marketplace, because it will enable him/her to assess the current investment climate through existing networking contacts. Even with a positive investment market, much effort should be devoted to fundraising.

ELEMENTS OF A SUCCESSFUL STARTUP

The success of a startup is widely due to how an idea is implemented and whether it addresses a real market need. The following list describes elements of a successful startup:

1. **Innovative Products, Innovative Services:** Primarily, startups should be based on innovative services/products that bring forth unique value to the customer. Although academic discoveries usually are an embryonic concept, it is often difficult to determine the real value of those discoveries right away. Nevertheless, startups should secure intellectual property rights associated with their technology immediately.
2. **Intellectual Property:** Although it is not a requirement to possess intellectual property rights to start a company, protecting those rights is the key to the business as it is an essential factor in the commercialization process. Having this protection puts you at an edge against competitors by preventing them from using, making, or selling a product that is claimed in our issued patent.
3. **Product Pipeline:** Otherwise known as “platform technologies”, product pipelines are discoveries that could lead to multiple products or product lines. Ask yourself, “Is it a product or a company?” It is unlikely that a company will be attractive to institutional investors, unless the product encompasses a large market opportunity.
4. **Market Need:** There are several questions you should ask yourself when determining your first product, especially for platform technologies. What market does this product serve? What products are already in this market? How is this product different from what is already available? Who are the competitors, and how do their products differ from yours?
5. **Specialized Personnel:** Adequate management is vital for the success of a startup. Managing hurdles and raising funds while being motivated requires a sophisticated network, experience, and unique business talents.
6. **Specialized Facilities:** Often, academic startups may find it challenging to have access to ample space and facilities; UTRGV OTC can assist you with finding more accessible places.
7. **Capital:** a startup’s demand for cash widely depends on how much it would cost to take the product to market. Although this may vary, the decision as to how much money needs to be raised largely depends on the timeline to launch and the nature of the product.

STEPS TOWARDS A STARTUP

1. **Research:** Experiments and observations during research activities frequently lead to inventions or discoveries. An invention can be any useful product, process, machine, composition of matter, or any new useful improvement.
2. **Talk to UTRGV’s Office of Technology Commercialization (UTRGV OTC):** Reach out to UTRGV’s OTC to determine the type of intellectual property that is needed and for suggestions regarding next steps. Questions about intellectual property and conflict of interest policies can be answered as well.

3. **Protect Intellectual Property:** Prior to making any public disclosure, a patent application should be filled as it is often the only capital.
4. **Seek Input and Network:** Contact OTC for suggestions pertaining to how to network or recommendation for potential participation in University programs.
5. **Develop a Business Plan:** A business plan that consists of a market and financial plan should be generated to convey market opportunity and the company's vision.
6. **Disclose to OTC and COI officer:** Communicate with OTC and a COI (conflicts of interest) officer how a potential conflict-of-interest/conflict of effort will be managed as a cause of the startup.
7. **Assign a Businessperson:** A business manager (CEO), should be chosen to commence negotiations with UTRGV and fundraising.
8. **Execute a Founder's Agreement:** A founder's agreement establishes the terms and conditions in which founders have agreed to form the company.
9. **Incorporate:** For a license to be enforced, the company first needs to become a legal entity.
10. **Negotiate the License or Option Agreement with OTC:** The assigned businessperson must negotiate a license for the startup with OTC.
11. **Fundraise:** The process of commercializing a technology is often capital-intensive; therefore, fundraising becomes an integral activity until the company exit.

FOR-PROFIT OR NOT-FOR-PROFIT?

The missions of not-for-profits usually center on "societal good" of the community, nation, or the world. Not-for-profits are tax-exempt, meaning they do not pay certain taxes, but in return they must use their funds for the mission for which they are formed. It is important to remember that non-profit organizations may make a profit, but it must be used solely for the operation of the organization or, in the case of a foundation, granted to other not-for-profit organizations. When a not-for-profit goes out of business, its remaining assets must be given to another not-for-profit.

The mission of for profit startups is to bring profits to the shareholders. Profit is the goal and the business pays taxes on that profit. When a for-profit organization goes out of business, its assets can be liquidated and the proceeds distributed to the owners or the shareholders.

VIRTUAL OR BRICKS AND MORTAR?

Virtual companies typically do not have headquarters or an office space, and run with a very small staff. Most aspects of their business, including research and development, marketing, and sales, are typically outsourced. The primary role of the virtual company is to monitor and manage the outsourced activities. By not creating its own infrastructure ("bricks and mortar") the virtual company keeps its costs to a bare minimum.

In general, a virtual company is formed if the company is in its early stages. There are numerous examples of startups that never graduated from the virtual mode and ultimately withered and died. Success in the virtual mode requires a well-thought-out business plan with achievable technical milestones within a realistic timeline. When the milestones are achieved, the entrepreneurs should be able, in theory, to sell their startup idea to investors. However, technical milestones are often difficult to achieve on a timely basis within the academic environment. This is one of the reasons why virtual companies often fail.

4. FOUNDERS' ROLE IN A STARTUP

Most first-time academic entrepreneurs are uncertain about what role they should play in the formation and operation of a new company, though certain relationships are predictable. Faculty typically prefer to retain their academic position while working with the new company, while staff, postdocs, and graduate students ordinarily leave academia to become company employees. A faculty member's role in the startup is likely to be proscribed by several university policies, including those on conflict-of-interest, conflict-of-commitment, sponsored research, and outside consulting. The typical range of roles that faculty play in conjunction with startups include:

- Founder/equityholder
- Consultant
- Member of the scientific advisory board
- Member of the board of directors
- Recipient of sponsored research funding
- Employee of the startup, only while on leave from the university

UTRGV, like most academic institutions, has policies regarding how faculty may participate in outside activities. The faculty member should consult with the OTC- and the conflicts of interest (COI) officer for advice on the conflict of interest policy, and discuss with his/her school department before starting a company. The academic researchers provide the technical vision to guide the company's initial research and development. They are integrally involved in multiple aspects of building a business, which include: developing and writing the business plan; recruiting an individual to lead the business side of the company; making presentations to potential investors; hiring initial scientific staff; and launching the company in its own facilities. These activities require a large time commitment. A Chief Executive Officer (CEO) may handle much of the early work of building the company, but inevitably the researchers will be pulled into the process. It is important to note that one of the measures used by potential partners and investors in assessing their interest in working with a new venture is the amount of time that the academic founders devote to the endeavor. Once the startup is launched, the involvement of the founder is often inversely related to the number of employees at the company: as the size of its staff increases, the day-to-day participation of the founder decreases. In established companies, the founder usually remains on the company's scientific advisory board and offers strategic consulting advice.

SELECTING THE CO-FOUNDERS AND THE RIGHT CEO

- A founder should be chosen according to the expected contribution of each individual to the enterprise.
- You want to form relationships with people whom you know and trust, but also share values and aspirations.
- You want people that have had experience as entrepreneurs and are respected by the investor community.
- Identifying founders and setting up stock plans is something with which an experienced attorney can assist during incorporation.

Finding the right CEO might be the most important decision that the academic founders will make for the startup. Founders are often tempted to play that role, but the truth is that it almost never works. The

skill set that makes you a good researcher or inventor rarely translates to running a business effectively. Fundraising, writing business plans, negotiating leases for facilities, and setting up and managing human resources, purchasing, accounting, regulatory affairs, manufacturing, and sales and marketing functions are generally not within the realm of the researcher's experience or interest. Experience in building start-ups is critical to be able to raise capital.

There is a tendency in academia to underestimate the value that the business partner brings to the table. Avoid hiring the first potential CEO you consider; it is important to check references and determine how credible they are with investors and competitors. Initial conditions in a startup determine the future path of the company, few startups survive a second-rate business partner. Also, when it comes to granting the CEO equity in the company, you may want to make it strictly performance based.

Faculty members are often tempted to include their research collaborators and graduate students as partners of the startup, though this decision can usually bring headaches later in time. Because partners usually share in the future value of the company—whether in the form of profits, stock holdings, or other arrangements—decisions as to who will be a founder should be made according to the expected contribution of each individual to the enterprise. It is much easier to look back at a scientific study and determine who made the contributions necessary for inclusion as a report's coauthor, than it is to look into the future to determine who should share, and in what proportion, in the value created by the company.

When picking your business partners you want to form relationships with people who you know and trust and who share your values and aspirations. You want people that have had experience as entrepreneurs and are respected by the investor community. Of course, they also need to be honest, communicate in a straightforward manner, and follow through on what they say.

FOUNDERS' PIE

- If you are a founder, you have to decide how to share the "Founders' Pie"
- If you are recruiting someone, you have to decide how many stock options to offer a prospective hire
- If you are a prospective hire, you have to evaluate the number of stock options you've been offered

[4] For any start-up, getting started correctly is very critical! When you start a company you will have to decide who owns what.

Considering the general scenario, we may normally divide the percentage with the number of founders equally, but this can be fatal over time. If the founder's equity is not planned earlier 9 or 18 months down the line:

- The decisions can be difficult or impossible.
- The potential of the decision's beings blocked could lead to be the failure of the company.
- One jumps into the company & the other keeps his/her job, "helping" at night & on weekends.
- Company is doing well. One founder happy with current income, the other wants to change the world.
- Company needs money. One founder puts it in, the other doesn't.

SLICING THE FOUNDERS' PIE [5].

- Deathtrap for early startups
- How much stock ownership should go to whom?
 - ♦ Share the wealth with those who help create the value and thus the wealth
 - *To date
 - *Into the future
- Making sure the company prospers and grows, creating a huge, shared pie

Two friends decide to start a business. "We'll go 50-50," one says to the other.

Three graduate students have worked on a research project that they want to commercialize. "Just like the three musketeers; all for one; and one for all. We'll split the company three ways equally."

Four neighbors share passions for baking. "Let's start a catering business," says one. "That's a great idea! One hundred divided by four means 25% each," responds another.

That's a story that repeats itself multiple times every day, and it's also one of the most common mistakes first-time entrepreneurs make. In fact, Fred Beste of Mid-Atlantic Venture Fund, attributes two of his famous "Twenty-Five Entrepreneurial Deathtraps" to this issue.

When a company is first launched, the founders own 100%. As already indicated, the often-used method for dividing that 100% is to divide it by the number of founders. "It's fair" is the common explanation, but this is a prime example of the saying "The road to hell is paved with good intentions".

Before we discuss what should be done, let's look at a few hypothetical situations. What if:

- You put in 10 hour days, six days a week and your partner shows up at 10:00 a.m. and leaves at 3:00 p.m., except on days when they got an earlier tee time.
- You quit your job, forego salary, while your partners stay in their jobs "to help fund the business" until it can afford "to pay them."
- Every time you try to do something that you consider important, but costs some money, your two partners veto it.
- You want to raise investment to help the company realize its potential, but your partners don't want to take the risk; "We're doing just fine the way we are."
- The company is running through cash flow raindrops and can't cover payroll, so you draw down your savings to make the checks good. Your partners can't come up with their "fair share," but they assure they will when they can, but never do.

One way to look at such problem is by identifying certain areas of importance and how those elements come into play. In a Tech Transfer context, the idea is encompassed in the technology that has been developed in the university. In most cases, a Tech Transfer office has proceeded to patent the technology and then the company itself negotiates with the Tech Transfer office to license such technology from the university. Technology is all well and good, but there must be a plan for commercialization that appears to make sense and something that can be used as a guidepost as you make your decisions leading up to commercialization.

You've got skills and experience. Domain knowledge is critical. One of the things that you want to look at in terms of the people that you are bringing onboard is: did they have what used to be phrased an "ac-

tive rolodex”?. The company is going to have to conduct itself in a marketplace where there are existing players. You will need the ability to know who those players are and how to access them, if you want to embrace them as channel partners or service providers that bundle your product into their activity.

For our example, let’s take the following considerations of Value:

- Idea
- Business model preparation
- Skills, experience, track record, contacts
- Commitment and risk
- Responsibility

IDEA

The company wouldn’t exist if it weren’t for the original idea, and that is certainly worth something. However, there’s a lot of truth in the saying “A successful business is 1% inspiration, and 99% perspiration.”

BUSINESS MODEL CREATION

The development of an initial business model is a surprisingly difficult and time-consuming effort. To pull together and organize all the thoughts of the founding team, filling in the blanks, identifying and reconciling the differences, and producing a pitch that captures the essence of the business and helps persuade banks, investors, board members, and others to support the company, are parts of a mammoth undertaking, as anyone who has done it will attest.

Again, getting the business model right is a necessary element of starting the business, but execution is where the real value lies.

DOMAIN EXPERTISE

To what degree do you and your partners have meaningful experience in your business? Knowing the industry, having relevant experience, and having a Rolodex full of accessible contacts can greatly improve the company’s probability of success and speed its growth rate. Otherwise, it will take longer to get commercial traction and you’ll have to pay for these assets, usually by hiring someone and including equity in their compensation package.

COMMITMENT AND RISK

The founders who join the company full time and are committed to making it a success are much more valuable than founders who are going to sit on the sideline and cheer you on. In addition, the opportunity cost of joining the company rather than pursuing an existing career is not trivial.

RESPONSIBILITIES

Who is going to do what? Who is going to stay up at night when you can’t make tomorrow’s payroll? As an aside, it is a very strong recommendation that someone becomes the boss: the primary strength against competition is the speed with which you can act, so don’t neutralize that by debating every decision among the founders. Usually, any quick decision is better than the “right” long and drawn out decision. Even if you ignore all of this unsolicited advice and decide to be “equal” founders, it’s encouraged to make one of your team a “little more equal” than the others. Management by consensus is rarely successful.

Now consider a scenario of a university spinout with 4 founders

- **Founder #1:** Inventor – senior faculty, won't leave the university, created university-patented IP
- **Founder #2:** Business person (MBA?) – responsible for getting things done
- **Founder #3:** Post-doc – knows how to make the technology work, joins the company when funded
- **Founder #4:** Lab tech – happened to be in the right place at the right time

Now with the above four people in mind, let's get into the Founders Pie calculator. What we are talking about is the weighted numbers coming out as shown in Table 1, accepting the five areas of business as mentioned above. The first step is how important each of those elements are to the company as the founders sit together and decide.

Table 1. Founder Relative Contribution Calculator

Absolute Scores (1-10)

Idea					
Business Model					
Domain Expertise					
Commitment & Risk					
Responsibilities					

Having decided the sectors, now we go to each of the individuals and question each person's contribution per sector. Now we see the founder who is the inventor is moving forward. You'll see in a particular case not only has the business person taken on the responsibilities for moving the company forward, but has also made a full-time commitment to joining the company and pursuing this on a day to day basis. So if you take a look across that and we put it all together, we see in Table 2 the dynamic agenda of the founders to get together and try to fill in each of the blocks in a way that ultimately will work for the company. In the table above, the numbers and weights add up to 321, and circled we see the equity guidance instead of 25, 25, 25, 25. The business person will be particularly important in terms of moving the company forward, turning it into a company and making something happen. By virtue of having committed full-time, he/she is given recognition on the table.

Table 2. Founder's Weighted Contributions

Weighted Scores (1-10)

	Founder 1	Founder 2	Founder 3	Founder 4	
Idea	70	21	21	0	
Business Model	6	16	2	0	
Domain Expertise	30	20	30	20	
Commitment & Risk	0	49	0	0	
Responsibilities	0	36	0	0	
Total Points	106	142	53	20	321
% of Total	33.0%	44.2%	16.5%	6.2%	100.0%

Only use for guidance. Do not use the calculated values.

The presumption is that the founder individual will not be joining the company full-time, in our case the inventor. There may be other factors to take into consideration, but what we're saying is the international luminary in that technology is critical, and therefore deserves recognition at that level. The technologist less so, and then the lab tech ends up with a very modest share.

These numbers should not be used as a definite answer, but for relative evaluations. Do the numbers sort of make sense when you look at the four people who are around the table, what they have done for the company, and what they will do for the company later on? If you take a look at the businessperson, do they in fact appear to be more important than the top technologist? The top technologist may take umbrage at this outcome and that's an important conversation to have with some kind of resolution along those lines.

If the company is already established (there are shares outstanding, etc.), what can be done is to offer options to the various people who are under compensated, so that you can bring the equity totals inline. Sometimes people have different aspirations. One of the things that'll likely happen 18 to 24 months into a new company is the equity will be illiquid, meaning it can't be sold or it can only be sold under very strict circumstances, turning the sale difficult and making the equity not likely to be a source of immediate cash flow. Perhaps there are individuals among the founder group that value cash over equity, and perhaps there's a way to work that kind of a trade out.

Now, if somebody is planning on leaving the company and a third of the shares are still not fully owned, you can work out a deal where half of the remaining balance is automatically vested, and the other half is retired. Sometimes you can set up something like a consulting agreement for somebody who's no longer in the harness per se; for instance, work out a deal where they can be compensated on a monthly basis for the next year or two in exchange for the return of the shares. The most often used mechanism is "playing ostrich", meaning "we know it's a problem but we don't want to deal with it, so we will wait until we get the next round of investors and they'll see the errors that have been implemented, and then their investors will end up making things fair".

It is not recommended to leave it up to the investor, as new investors really don't take on any of the baggage that has gotten the company to where it is at; they haven't participated in the conversations. The reality is that, whatever was mentioned during internal discussions, the new investors are not obligated to proceed with anything that the founders proceeded with in terms of their initial intentions to share the Pie. It is in the company's best interest to resolve issues of the kind prior to taking on equity. In addition, depending on the severity of the issues, an investor may say: "I just don't want to take on all that baggage; I've got 10 interesting investment proposals on my desk today, yours is going to be messy and I don't like messiness, so I'm going to pass on your deal and pursue another one."

If it is the case that you are the individual who has proven to be of greater value and importance to the company, yet feel like you're not being properly represented or treated, you can threaten to leave. If you threaten to leave you probably ought to be in a position to leave the company with the equity you own at that time. Having to leave your own company, where you have been since the very beginning although maybe occupying different roles, is a terrible situation to find yourself in. Rather than trying to give it another six or twelve months hoping for things to change, in many cases it is best to be thankful for the education that you got.

When we take a look at a company and what it's trying to accomplish (i.e., the commercial presence that it wants to create), most companies will require outside investment to ultimately achieve their commercial

goals and success. Doing so will allow them to provide an exit to investors or a liquidity event where a company would either be sold or go public. In the larger scheme of things, at the end of the day founders and management would own stock option pools 20 to 33 percent of the company. This means that starting at time $T=0$, 100 percent is owned by founders and management once it's been through the process of bringing on investment and selling equity to investors, only 20 to 33 percent of the company it's likely what's going to be left over.

Stock options are considered very important in terms of attracting the right kind of talent to a company. In the early stages, there will be a stock option pool that is created initially, and then added to over time as additional investments come in, to keep it at a level that is deemed appropriate at that point in time. Generally speaking, stock option pools are going to be in the range of 10 to 25 percent of the company, and as time progresses, an initial 25 percent pool at $T=0$ or T =first investment, is likely to be reduced; risk is taken out of the equation, commercialization is being achieved, and the company is moving forward.

ADVICE TO ENTREPRENEURS

- Splitting up the founders' pie is an extraordinarily important, but little understood or appreciated, set of decisions that may have set the stage for future crises.
- Rarely should it be split evenly, even though that's what many startups do.
- Consider the past, current, and future relative contributions of the founding team members to the ultimate success of the company.
- Employ the Founders' Pie Calculator to create a quantified scenario of how the pie might be divided based upon these elements.

FOUNDER "FAIRNESS" [6]

Not all founders are created equal, and that inequality should be reflected in the distribution of the founders' equity pie. Many of you are already in business and perhaps, living with the consequences of having taken the Three Musketeers approach to share distribution, i.e. dividing 100% by the number of founders. Some may ignore this advice because it still does not seem "fair." Still, others "got it" but aren't comfortable initiating what is likely to be a contentious discussion, i.e., "What do you mean that you deserve more shares than me?!"

Do not despair, there are remedies although they need to be crafted carefully, and will require legal assistance to make them effective and enforceable.

FOUNDER SHARE BUYBACK AGREEMENT

The most frequently used method to address equitable division of the equity among founders, particularly if not addressed at the founding of the company, is to make the founders' shares subject to buyback by the company. Before we discuss the mechanics, let us clarify what this means.

You know those shares of stock you got when the company was founded? Guess what? You don't really own them if this mechanism is utilized!

"Wait a minute! You're telling me that the shares that I own outright today, I'm not going to own outright if I follow this suggestion?". The answer is yes, and you might wonder "why would I agree to that?". Well, if you accept an investment from a venture capitalist, you will agree because it will be an integral part of

the deal. If you remain a private company, you will agree to this provision, because the following will try to convince you as to why it's "fair."

A founder share buyback agreement is like vesting for stock options. Based upon some defined schedule and conditions, the company has the right to buyback some, or all, of your shares. Usually the buyback provisions will expire over time, meaning that as time passes the number of shares subject to buyback declines (and the number of shares you own outright increases).

For example, in many of the deals in which the original author, Professor Frank Demmler, participated, it has been fairly typical for the founders to own 25% of their shares outright at the initial closing, with 75% being subject to buyback. After the first anniversary of the closing, the buyback will expire on a monthly basis on one/thirty-sixth of the remaining shares for the following three years (36 months). After four years, none of the shares are subject to buyback (one year plus 36 months of buyback expiration).

The primary elements of the buyback agreement are:

INITIAL SHARE RIGHTS

This is what portion, if any, of the shares are owned outright at closing (25% in the example above). Some deals are structured so that no shares are owned outright until the first anniversary, at which time some relatively significant percentage, such as 25%, will no longer be subject to buyback.

THE TERM

This is often consistent with the company's stock option vesting schedule, if there is one, but not necessarily so.

THE VESTING SCHEDULE

In the example, it's one/thirty-sixth per month starting after one year, for a total of four years. There is nothing magical about four years, it might be three or five years for that matter, it depends upon the specific circumstances of your situation; who benefits from shorter or longer, and the relative power of the participants structuring the agreement.

CLIFF VESTING

Cliff vesting is the situation in which the time between expiration events is relatively long and the amounts of stock are relatively large. For example, it would be cliff vesting if your deal said the buyback provision expired on 25% of your stock per year on the first through fourth anniversaries of the initial closing. While both examples would allow you to own all of your stock outright after four years, the difference between one/thirty-sixth per month and one-fourth per year is significant.

WHY GO THROUGH ALL THIS TROUBLE?

In most cases, founders' stock is actually intended to compensate the founders for what they did to launch the company, what they are doing now for the company, and what they are going to contribute in the future.

You may not have thought of it in that context, but let's say you started your company with your best friend and you split the stock 50-50. After three months, your partner comes to you and says, "This is a lot harder

than I thought, I'm going to get a regular job. Lots of luck! I wish you well." Oops! He owns one-half of the company, and he just walked out leaving you high and dry. This does not seem "fair".

Similarly, an investor is betting on the founding team's ability to build the business and achieve a liquidity event. Their explanation for the buyback agreement might be something like this: "If for some reason you were to leave the company, you wouldn't have held up your part of the bargain, so you shouldn't own all that stock after you leave while your co-founders are still in the trenches earning their stock. In addition, we would have to go out and recruit a replacement for you. That replacement will be assuming the important functions that you currently perform. As such, we will have to make a significant equity commitment to that person. This is only 'fair.'"

FOUNDERS ON THE SIDELINE

This also highlights the problems of splitting the founders' pie equally when not everyone is participating in the business full time. That may be "fair" for what has happened to date, and the relative contributions of the people involved, but it often doesn't take future contributions into consideration.

If one founder is working at the business full time 24/7, constantly concerned about the company's fragile state, worried about paying bills and employees, sacrificing their family life, foregoing salary (or taking greatly reduced compensation), it will not be long until this "fair" approach begins to look a lot different.

Since the non-participating founder's stock isn't subject to buyback, the primary way to bridge this "fairness" gap is through granting a meaningful number of stock options. These can vest over time, as above, but at least can go a long way to leveling the playing field.

ADVICE TO ENTREPRENEURS

- Founder share buyback agreements should be considered when you are starting your business.
- "Fairness" must be viewed in a broader context than the here and now.
- It is critical to think through these issues in the early days (ideally before launch) while rational minds prevail. When the issues that make these considerations important arise, it's likely that the emotional quotient of the discussion will overwhelm the rational portion.
- Surround yourself with professionals, mentors, and advisors who have "been there, done that" and can help you level the playing field.

FOUNDERS' STOCK OPTIONS

The stock option is the right to buy the share of stock sometime in the future, at a price established (exercise price) at the time of grant. The stock option will most often have a time cap to it, which depending upon circumstances it could be two years, five years, ten years; they are largely situational. For an early stage venture backed technology company, five years is not uncommon.

For example, if you get 50,000 options at an exercise price of a dollar, and five years from now the company is acquired for 10 dollars a share, then you would buy at the time of a liquidity event. In essence, you could buy 50,000 shares for a dollar a share, and then sell those 50,000 shares at 10 dollars a share, and so 500,000 received versus 50 paid out provides a gain of 450,000 dollars.

Stock options are usually rights to buy common stock. The companies and investors are more than likely

to purchase preferred shares, which typically have greater value than the common shares.

The worth of option cannot be known without knowing the full share base. If you are offered 5,000 options on a share base of 10,000, then you get a 50% ownership, whereas if the same 5,000 options are offered on a 10,000,000 share base, you get 0.05%. One MUST know how many fully diluted shares exist in order to evaluate an offer of options.

FOUNDERS' VESTING

The grant of stock options does not mean you own those stocks, whereas the purpose of vesting is to give an immediately secured right of present or future deployment. It's very similar in terms of its implementation, but there are some differences between dealing with the founder's stock that they own and making it subject to buy back as compared to stock options, which are the right to buy shares.

The purpose of a vesting schedule really is to tether a person to the company and provide motivation for them to perform their job as well as possible, and to stay onboard.

A typical vesting schedule in this day and age is a four year vesting schedule. That vesting schedule will have a cliff vest on the first anniversary. This means that from day 1 to day 364, you may have 40,000 stock options, but none of them are vested: none of them are options that you can actually exercise if you're inclined to do so. However, on the first anniversary of the grant, 25 percent of those shares would vest, so in this case at 40,000 options that would mean that 10,000 options vest. The balance of 30,000 options they would vest at the rate of 136 of that balance per month over the next three years such that by the end of the fourth year those shares will be fully vested, that is fully owned by you, and available for exercise in the case of a liquidity event.

SMALL PIECE OF A LARGE PIE [7]

When a venture capitalist is speaking to a first-time entrepreneur and valuation comes up in the conversation, almost without fail, the VC will say, "A small piece of a big pie is better than a large piece of a small pie". Usually the conversation stops there. Apparently, the compelling logic does not require explanation. Here we are going to put some numbers around that statement, and you can decide for yourself if it's meaningful or not.

Table 3. Companies' Progression Over Time

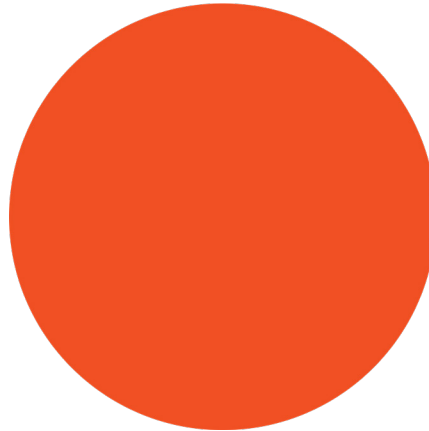
	Start		Seed Round		Round 2		Round 3		IPO	
	Shares	%	Shares	%	Shares	%	Shares	%	Shares	%
Founders	100,000	100.00%	100,000	30.00%	100,000	11.25%	100,000	7.27%	100,000	5.81%
Option Pool 1			66,667	20.00%	66,667	7.50%	66,667	4.84%	66,667	3.88%
Option Pool 2					111,111	12.50%	111,111	8.07%	111,111	6.46%
Option Pool 3							28,674	2.08%	28,674	1.67%
Total Option Pool	-	0.00%	66,667	20.00%	177,778	20.00%	206,452	15.00%	206,452	12.00%
Investor 1			166,667	50.00%	166,667	18.75%	166,667	12.11%	166,667	9.69%
Investor 2					444,444	50.00%	444,444	32.29%	444,444	25.83%
Investor 3							458,781	33.33%	458,781	26.67%
Q									344,086	20.00%
Total Investor	0	0.00%	166,667	50.00%	611,111	68.75%	1,069,892	77.73%	1,413,978	82.19%
Total	100,000	100.00%	333,333	100.00%	888,889	100.00%	1,376,344	100.00%	1,720,430	100.00%
Pre-financing value			\$1,000,000		\$5,000,000		\$20,000,000		\$150,000,002	
Post-financing value			\$2,000,000		\$10,000,000		\$30,000,000		\$187,500,002	
Investment			\$1,000,000		\$5,000,000		\$10,000,000		\$37,500,000	
Price per share			\$6.000		\$11.250		\$21.797		\$108.984	
Value of Founders' Shares			\$600,000		\$1,125,000		\$2,179,688		\$10,898,438	

Considering the example in Table 3, a startup company raises some seed money that allows it to become something of a business and move down the path. Then, in Round Two (Series A in terms of VC terminology), it raises a round of money that is intended for commercialization purposes. Round Three is growth money, intended to help the company achieve superior growth. If all goes well in those activities, the company is able to go public.

THE BEGINNING

When a company is first launched, the founders own 100% of the company, but the valuation is unknown.

FOUNDERS 100%



Company Valuation ?

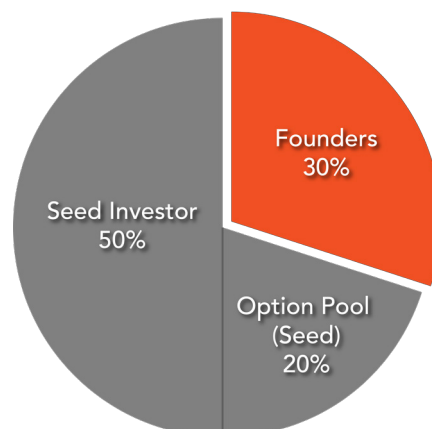
Founders' Ownership 100.00%

Founders' Value ?

SEED ROUND

Attracting an initial, seed round of investment can be a mixed blessing for you. On the one hand, you're ecstatic that you've attracted investment and can now pursue your dream with vigor. But on the other, you're in shock over how much of your company you've had to sell to get it. You sure hope that this concept of a smaller piece of a bigger pie works for you!

SEED ROUND

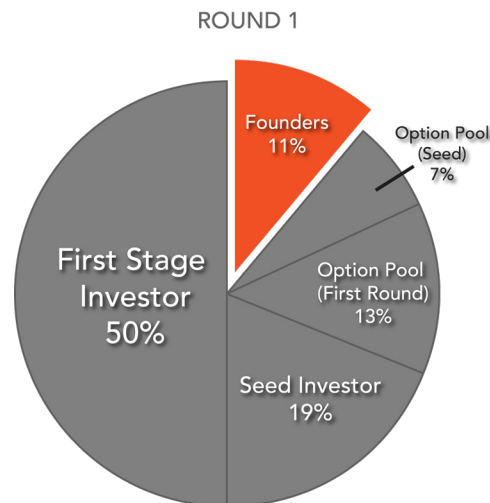


Company Valuation \$2,000,000
Founders' Ownership 30.00%
Founders' Value \$600,000

If we look at time (T) = 0 to start, we're starting with the founders having a total of 100,000 shares, whether that's one person or four people sharing its Founder's Pie. When you look at the seed round, we're talking about an investment of 1 million dollars, where those million dollars are going to be 50 percent of the company, creating a 20 percent option pool. Regarding the founder it says that price per share is 6 dollars per share, so on paper now the founder has a paper value of 600,000 dollars.

SECOND ROUND

Well, things have gone well. You've been able to attract an investment from a venture capital firm at a step up in value. Your share of the company has gone down again, but not to the degree you suffered with the seed round. While still concerned about the "smaller piece" issues, your paper value is moving in the right direction.



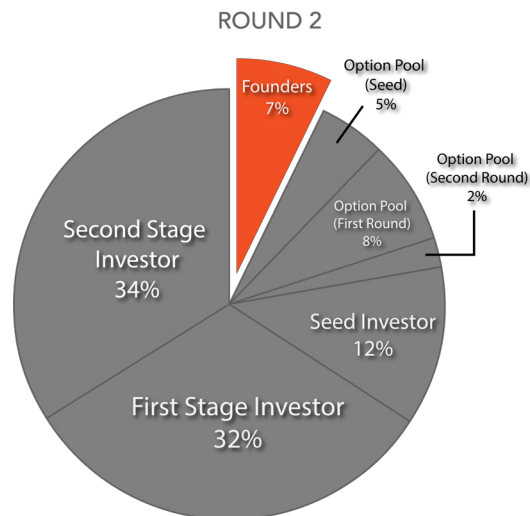
Company Valuation \$10,000,000
Founders' Ownership 11.25%
Founders' Value \$1,125,000

For Round 2, 5 million dollars are added to buy half of the company and, again, there is a need for a 20 percent option pool. Applying arithmetic, the number of shares that investor 1 purchased does not change, so the 166,000 shares shown in the seed round carry over to round 1. The number of shares purchased by the new investor to get 50 percent are listed. We see the share growth from 6 dollars a share to 11 and a quarter dollars per share. Now the paper value to the founder's position is worth 1,125,000 dollars.

THIRD ROUND

Damn, you're good! Things continue to progress according to plan and a big league, first-class, well known and highly regarded venture capitalist has made a significant investment into your company, again at a step up in valuation! And the VC is only investing because they think that they can get at least a five

times multiple on their investment. If things go well, next step is an IPO!



Company Valuation \$30,000,000

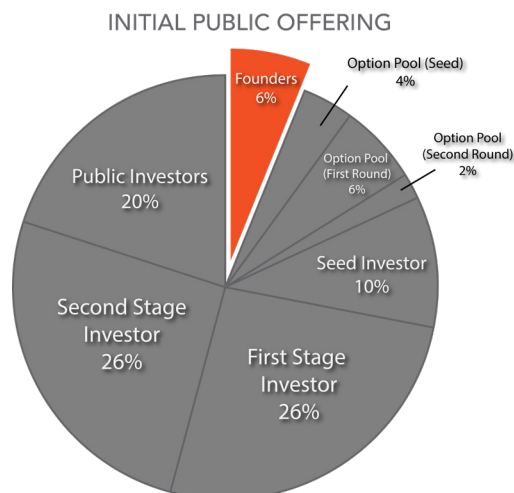
Founders' Ownership 7.27%

Founders' Value \$2,179,688

In Round 3, a new 10 million dollars is added, requiring a 15 percent option pool down from the 20 percent. The investment is going to buy a third of the company, so again, the prior investor's shares all led to the cap table as we got here. The new investors are going to buy 458,000 shares. The stock option pool is going to be increased by 28,000 shares, bringing the total to over 200,000 shares (15 percent of the equity). Again, for that 10 million dollar investment, the outcome of all of the arithmetic is that the price per share under these circumstances is almost 22 dollars, and the founder's share is now worth almost 2.2 billion dollars. The paper value is moving in the right direction.

INITIAL PUBLIC OFFERING

Halleluia! You're ready to go public, just like you had hoped you would all those years ago when your seed investors convinced you that a smaller piece of a bigger pie was what you had to work for!



Company Valuation \$187,500,000
Founders' Ownership 5.81%
Founders' Value \$10,898,438

Finally, the company reaches an IPO (Initial Public Offering) date and sells 20 percent of its equity. The IPO stock prices itself based upon a step up in valuation of 5x as shown in Table 3 (above). When you go through the arithmetic involved there, the company is worth 187,000 dollars. The companies raised 37 million in investment. Stock price is at 108 dollars a share and the founder value is almost 11 million dollars.

ADVICE TO ENTREPRENEURS

- Never, in the history of venture capital and entrepreneurship, has a company ever hit its plan.
- The vast majority, well over 90% of the author's experience (Frank Demmler, as mentioned in the references section) are below plan, often WAY BELOW plan.
- A very small fraction exceed plan and exceed the hoped for exit opportunity for the investors.
- As has been noted previously, it is the rare founder who can grow with his company and meet the changing demands placed upon management as the company grows and prospers.
- For this specific scenario to play out, the company has to be able to attract next round investment at increasingly higher valuations. In recent years that has been extraordinarily difficult and rare. Many follow on rounds have been at LOWER valuations.
- Stock option pools will be part of your company if you attract institutional investors. In terms of their impact on valuation, they are really neutral, as long as you include them at appropriate levels in your fund raising efforts and integrate their impact when negotiating each round.
- Venture capital investment is not for every company, even if it were available to you.
- All of the related calculations were the result of converting percentage endpoints into numbers of shares. After all, deals are negotiated with percents, but structured with shares.
- Build a network of mentors, advisors, professionals, and entrepreneurs who have "been there and done that."

FRANK'S RULE OF THUMB ON EMPLOYEE EQUITY SHARING

As the company grows, here are the generic stock options for multiple hiring decisions at a company, along with some of their traits.

CEO: 8% - 12%

- A chief executive officer (CEO) is a "Rainmaker"
- In the university spinouts quite often a company can get to a point where the role of the CEO has become of great importance, such that it might be necessary to bring in a CEO from outside with prior experience.
- The decision is made to seek an individual who is not only an experienced CEO from an operational sense, but also someone who has successfully raised money from equity investors in the past.
- Generally, the founders have a higher equity stake in the business compared to someone hired from outside. Thus, a founder's portfolio comprises almost twice the equity a non-founder's would hold.

COO: 4% - 8%

- 'The Business person'
- There are circumstances where a technical CEO founder occupies the position but does not possess the business skills or desire to actually run the business. In this case, you bring in a Chief Operating Officer (COO).
- A COO is a person with prior experience; he/she will give investors warm and fuzzy feelings in that they know the money is being well spent and monitored, the milestones are front and center, and priority is placed on achieving them.

VP'S: 2% - 3.5%

- 1-2 key players
- One of the key players might be the vice president (V.P.) of Engineering. Particularly in the case of a university spinout or the initial staffing of a company's technical side, the business is being done with people who have worked on the product to date in a university environment.
- The V.P. of Engineering would take over responsibility for driving the product into the market, updating, revising, upgrading the product over time to make it into a desired solution for a customer base. The V.P. would also drive the research activities in an R&D department.
- The V.P. of Business Development will need to develop relationships with industry players.

CFO: 0.5% - 1.0%

- CFO (Chief Financial Officer) is a 'Supply and demand' person
- CFO who has a CPA (Certified Public Accountant) and had been a senior financial officer with a company.

DIRECTOR (0.5%-1%), MANAGER (0.25%), ADVISORS (0.25%-0.5%).

- Directors have a significant voice within the company, and being a director of a company brings with it some fiduciary responsibilities. Under a set of really bad circumstances, a director may actually be liable or certain cash payments that the company is obligated to make which the company can't afford.
- Advisors are not fiduciaries, and they do not have the personal exposure to some type of cash obligation as does a director.

VESTING ACCELERATION AT CHANGE OF CONTROL

What happens when the company is acquired, there are two answers to that. Senior management, and particularly a CEO founder, would have a double trigger related to their unvested shares. The double trigger means that for the CEO to have achieved their goal to provide the investors with a liquidity event. Hence one half of the CEO's unvested shares will become vested at the closing, and the remaining options would roll over into being an obligation of the acquiring company. Being a CEO if once you've supported a transition, if that's your role and you subsequently no longer have a productive role, you might leave the company before the end of the full vesting time, but due to the circumstances the balance of your stock would vest at that time.

From an investor perspective, accelerated options are going to be rare for the rank and file because when a company makes an acquisition, acquiring the people is one of the most important parts of what they're

doing.

The exercise price mentioned previously can be tied to the valuation of the company, but would be discounted. At the end, it would be discounted to the preferred share price, perhaps as low as 25 percent of the share price.

VESTING CLICHÉS:

- Focus on the share price: as long as it's going up, you will be OK.
- Cosmetics matter. Option grants of tens-of-thousands of shares can be persuasive, even if the actual value is miniscule.
- It is the CEO's job to sell the vision. Candidates must be excited about opportunity and their role in realizing it, "compensation is secondary".
- Develop a network of mentors and advisors who can help you design something appropriate for you and your company.
- Don't do anything without strong professional assistance.

5. DEFINING A MARKET

WRITING A BUSINESS PLAN

Once you have identified your customers and competitors, and defined a model that exhibits the financial needs and visibility of your business, it's time to create a business plan.

The following are elements of a business plan:

1. Executive Summary
2. Introduction
3. Market Analysis
4. The Product/Service
5. Strategy
6. Management Team
7. Capital Recapture/Exit Strategy
8. Risk & Risk Management Plan
9. Financial Statements

Note: Appendix (B) details each element of a business plan

ELEVATOR PITCH FOR YOUR COMPANY

An elevator pitch is roughly a minute long explanation that describes the *raison d'être* for your company. The description should be compelling enough for an investor to want to continue the conversation about the opportunity.

The first step in designing your elevator pitch is to have a well-defined market. Be careful, however, not to exaggerate the size of the market or gloss over the critical details. Investors tend to not take academic entrepreneurs seriously when they talk about a startup with a market size of billions of dollars.

The following are critical components for an elevator pitch:

- Describes unmet need
- Addresses how your product meets that need
- Identifies potential customers and why they will be interested in your product
- Additional questions to assist you with generating an elevator pitch:
 - ◆ What is the unmet need?

- ◆ How many people, companies, or other entities are seeking to address this need? In the United States? Worldwide?
- ◆ Is the incidence of the problem growing or declining? At what rate?
- ◆ How is this problem currently solved or avoided?
- ◆ Who sells products that address this problem? What are their annual sales? What is their estimated share of the market?
- ◆ What products for solving this problem are in other companies' development pipelines?
- ◆ What are the strengths and weaknesses of existing products in this market?
- ◆ How do people make buying decisions in this market?
- ◆ Why would a buyer choose your product over the others?

6. LEGAL INCORPORATION OF THE COMPANY

From the moment of its inception a new company takes on its own identity, but for legal purposes a business is not “real” until it is formally incorporated in a state. There are numerous how-to manuals on incorporation, and it is possible to incorporate on your own for a relatively small filing fee. While this option saves money in the near term, it is important that you get qualified advice from an attorney. The money will be well worth it and will likely save frustrations in the long run. One of the primary motivations for incorporating is to protect the principals from being held personally liable for the company’s debts. A good attorney will ensure that accurate documents are filed.

CHOOSING A CORPORATE ATTORNEY

If the prospect of company formation is nearing, a founder will need to consider seeking legal advice before making decisions that may impact the business throughout its existence. In the context of starting up a business out of the university, the first decision is likely whether to remain at a center within the university, or to create a startup company and moving off campus.

Deciding when to hire a lawyer for your startup, whom to select, and how to make the selection, can be a challenging and daunting experience. For example, one should consider taking advice early before any public disclosure (including public presentations, news releases, or talking to journalists), before mentioning the sale of shares or other securities (there are strict securities regulations to protect investors), or before entering into external relationships (including with consultants, research collaborators, or anyone offering brokering services). Loose, informal, or ambiguous verbal arrangements can result in costly disputes later. Compromising on the filing of a patent application (particularly a PCT “International” application), the ownership of IP, or ending up with a claim by a broker for a percentage of a deal or a finder’s fee are also potential pitfalls of early stage startups.

LAW FIRM SIZE: SMALL OR LARGE

It is worth giving careful thought whether to go with a small local law firm, or with the local office of a larger (possibly national) firm with deeper legal resources, and most likely, higher fee rates. While some would recommend retaining only the best, highly-rated firms, the legal needs of the start-up may not be able to support the high costs of doing so. However, if the startup’s needs are likely to require substantial amounts of capital from institutional investors, strategic partnerships with national or global corporations, an IPO on an established stock exchange, or legal work associated with an anticipated acquisition, then a larger firm’s services may be more appropriate.

HOW TO PAY FOR SERVICES?

A founder that is bootstrapping is likely to be minding every cent. Your law firm might assuage the cash-flow strain by offering services at a reduced rate for a period of time. Depending on the firm, the company may pay in cash, defer payment by agreement, issue equity, or combine any of the above.

LAW FIRM SELECTION PROCESS:

Aside from size, cost, and payment structure, there are other considerations in selecting a law firm, including:

- How many partners are in the firm?
- Does the firm specialize in a specific field of law or is it a one-stop shop for all of the services the company will require?
- What depth of expertise and experience do they have?
- Are they local, regional, or national?
- What is their reputation?
- What is their expertise and experience with the type of company/industry being created (startup experience, and experience with the types of deals you are likely to do)?
- What deals – startups, financings, collaborations, IPOs, M&A deals, etc. – have they advised upon? Advisers who have significant experience with the appropriate types of deals should provide the most efficient services and have a substantial pool of benchmark information about deal terms, and proven ways to structure deals and draft agreements.
- Outside of their area of personal focus, who would they bring in (from their own firm, or recommended external providers) to meet the company's other legal needs?
- If the firm provides a legal team to support the business, who will do the actual work? You will want the right level of attention from the senior partner but will want more routine work to be done by competent junior lawyers, at lower fee rates.
- How active are they in your industry? Do they attend conferences? Do they publish white papers, articles, updates of interest to the company's industry sector? Are they opinion leaders, evidenced by their public profile, invited presentations, public recognition, etc.?
- What are the fee rates per team member? What extras will be billed? How will they bill the company? What will they accept as payment?

Having a legal question or two to ask may also be very enlightening regarding how the firm approaches the answer and how interested the firm is to give you an answer; the purpose of such questions is not to receive free legal advice, but to analyze the way they respond.

Once you engage a law firm, you will likely work with an individual lawyer and his/her team. The founders will want to assess whether this person/team is compatible with the company's management team – not only with respect to personal chemistry, but to having a good understanding of company needs, and risk tolerance. Remember: entrepreneurs take calculated risks to exploit opportunities, while lawyers seek to remove or minimize risks.

Part of the lawyer's pitch might be the added value they can bring – access to their network of investors, etc. A good level of skepticism is appropriate. If this is delivered, it is a bonus. The company's priority should be on satisfying its specific legal needs. The Office of Technology Commercialization can provide inventors with information on how to find attorneys with experience in the area, and let the inventors choose.

CHOOSING THE STARTUP LEGAL ENTITY

Generally, there are four considerations, as outlined on the next table. Usually, sole proprietorship is not appropriate for technology companies due to liability concerns and the limitations with raising capital.

The C Corporation is the first choice for most venture capitalists. When the to-be-venture-funded startup is a C Corporation, various administrative and other burdens are minimized for the venture firm, allowing

them to transfer capital more easily and focus on developing the startup.

	Sole Proprietorship	C-Corp	S-Corp	Limited Liability (LLC)
Requirements	None	Must file with State, small fee required	Must file with State, small fee required	Must file with State, small fee required
Personal Liability	Unlimited liability	Shareholders are not held liable	Shareholders are not held liable	Members are not held liable
Governance	Relatively few requirements	Election of board of directors/officers, annual meetings, and annual report filing requirements	Election of board of directors/officers, annual meetings, and annual report filing requirements.	Few Requirements.
Management	Full control	Shareholders elect directors who manage business activities	Shareholders elect directors who manage business activities	Members can set up structure as they choose
Term	Terminated when proprietor ceases doing business or upon death	Perpetual: can extend past death or withdrawal of shareholders	Perpetual: can extend past death or withdrawal of shareholders	Perpetual, unless state requires fixed amount of time
Taxation	Entity not taxable. Sole proprietor pays taxes.	Taxed at corporate rate	No tax at the entity level - income passed through to the shareholders.	No tax at the entity level. Income passed through to members
Transferability of Assets	No	Shares of stock are easily transferred	Yes, observing IRS regulations	Depends on restrictions outlined in operating agreement
Fundraising	Individual provides capital.	Shares of stock are sold to raise capital (Securities laws apply)	Shares of stock are sold to raise capital. Limitations prevent S Corp stock ownership by corporations sold to raise capital (Securities laws apply)	Subject to operating agreement (Securities laws apply)

Public benefit corporations are a regular C-corp but with an added election of “public benefit” and are sometimes informally referred to as a “B-corp”. A public benefit C-corp is still for-profit in the ordinary sense, and the officers still have a fiduciary responsibility to the shareholders, but the corporation also reports once a year to the state how it fulfilled its additional public benefit mission. This gives executives more freedom in making some decisions, and may attract a new category of “social” investors. It might also have an advantage when applying for certain foundation or government grants.

EXECUTING A FOUNDERS' AGREEMENT

Forming a company is a tremendously complicated process on many different levels. The information contained in this section represents important considerations that founders of a new startup company must

discuss and agree to before moving forward to create the company. The essence of this conversation is to talk through a number of key points regarding founders' respective roles, relative ownership interests and other important governance matters. It is quite likely that the founders will need to retain the services of an attorney to prepare a Founders' Agreement. This document memorializes the terms and conditions agreed to by the founders.

It is recommended that the founders work through this process at the same time the entity is being formed. In addition, UTRGV's Office of Technology Commercialization can provide information on finding attorneys specialized in an area to prepare such a Founders' Agreement.

Premise - One Academic Founder ("AF") and one Non-Academic Founder ("NAF" and, collectively, the "Founders") will create an entity to commercialize and grow a business around certain intellectual property owned by UTRGV with respect to which the AF had a hand in creating.

Founders' Roles - At the outset, the Founders should begin to think through and frame out each Founder's initial contribution to the entity, as well as the parties' expectations regarding future contributions to and roles within the entity. Such evaluation should include:

- Relatively detailed listing of each Founder's initial and anticipated responsibilities towards the entity (e.g. business development, marketing, operations, raising outside capital, filling out the management team, software development, creation of additional intellectual property, etc.)
- Anticipated time commitments from each Founder - Will both Founders be working with the entity on a full-time basis, or will one or both of the Founders maintain separate full-time or part-time employment or engagements?

The foregoing expectations, once mutually agreed between the Founders, will likely serve as the basis for each Founder's "sweat equity" structure.

DUTIES AND OBLIGATIONS OF EMPLOYEES SERVING ON BOARDS OF DIRECTORS

Before you agree to be a company's director, you should understand your duties and obligations. By fulfilling them in good faith, you can avoid conflicts of interest and possible personal liability for company difficulties related to actions you take as a board member. Directors owe a fiduciary duty to their company. This fiduciary duty includes a duty of loyalty to the company and a duty to act with care in carrying out responsibilities.

- **Duty of Loyalty** - It means that you must set aside your personal interests and make company decisions based on what's best for the company, not what's best for you.
- **Duty of Care** - it means that you have to make your decisions only after you have done what a reasonable and prudent person in the same or similar circumstances would do.

In summary, keep your company's interests before your own, make decisions in good faith, that is, fully informed, and with due consideration for the impact of the decision on the company, and you will likely avoid personal liability for the results of the actions you take as a director. For more information on the requirements and responsibilities specifically catered towards UTRGV employees, refer to Chapter 8 - Compliance.

OTHER AGREEMENTS

The Founders should enter into an **Operating Agreement** for a limited liability company or a **Stockholders Agreement** for a corporation, which are agreements that address specific governance related topics for the entity, such as:

1. Future Capital Needs - The Founders will each likely want pre-emptive rights to ensure they can, at their option, participate in future capital raises to maintain their relative ownership percentages in the entity.
2. Capital Calls - If the Founders know that capital is going to be required in the short term (in advance of an outside round), they should address the investment expectations relative to each Founder and the repercussions a Founder will face in the event such Founder does not meet his or her capital call obligations.
3. Sales of Equity - Presumably, at a minimum, the company and/or the other Founder will have a right of first refusal to purchase any equity proposed to be sold by a Founder (sometimes such sales will simply be prohibited without board approval).
4. Tag Along/Drag Along - The Founders may want to ensure that to the extent they are not 50/50 owners at some point in time, the smaller owner(s) do not have the ability to block an otherwise approved sale of the company's equity. Similarly, the larger owner(s) do not have the ability to sell just their equity leaving the smaller owner(s) behind with a new and potentially undesirable partner.
5. Allocations/Distributions - Depending on the form of entity selected by the Founders, there may be annual profit/loss allocation decisions to be made, and regardless of the choice of entity, the Founders will want to think through expectations regarding dividends/distributions over time (most often profits in an early stage business are reinvested in the entity to promote growth).
6. Outside Activities - What will each Founder be entitled to do outside of providing services to the company (e.g. similar or competitive businesses, academic engagements, other boards of directors, etc.)?

7. STARTUP EQUITY AND FUNDRAISING

Startup equity (stock options, Vesting) is explained in considerable detail in the Founders Pie section of the 'Founders role in a startup' Chapter. Other important details are explained below.

EQUITY SHARING

The founders of a business nearly always retain equity rights. There are two forms of equity: stock and options. The purchase of stock by founders should happen prior to an external company valuation. Once a value is placed – through a term sheet, for example – there are tax implications. Founders' stock can be restricted with regard to transfer and vesting. For example, if a founder ends his/her business relationship with the company, the company may have the right to repurchase his/her stock at the founder's original purchase price.

The other form of equity, options, are the right to purchase shares of a company's stock in the future. Options are typically granted to new employees and consultants and vest over time. Sometimes, however, shares from the option pool are given to founders as a way to reward notable contributions by junior team members.

Vesting is a process by which stock or options become available to the employee over time according to a predetermined schedule, and it's meant to ensure long-term commitment to the company. The length of a vesting schedule is typically three to five years, and the periods tend to be shorter on the West Coast than on the East Coast. There are different types of vesting; for instance, cliff vesting is when a person's business relationship with a company has to continue for a set period of time (e.g. one year) before that person has a right to purchase stock in the company. Vesting can occur on a monthly, quarterly, or yearly basis. When a company is sold, vesting usually accelerates, and the rights of founders and employees – whose options also accelerate – need to be balanced.

INITIAL OWNERSHIP

- **Cash Investment:** Cash contributions in most IP-heavy businesses are typically minimal at this stage, but to the extent either or both Founders will be contributing capital to the entity, the parties should allocate a portion of the initial equity ownership towards those investments. For example, if both Founders will be making an initial capital contribution of \$25,000 to the entity, maybe the Founders will deem 10% of the equity to be issued to each Founder to be fully "earned" and "vested" as of the date of that contribution (with the remaining 80% to vest as described below).

SWEAT EQUITY

Beyond any cash investments into the entity, the Academic Founder (AF) will likely be deemed to be contributing a combination of intangible/intellectual property as well as time / "sweat" to the entity, while the Non-Academic Founder "NAF" will likely be deemed to be contributing time or "sweat" to the entity, such as:

1. Serving as CEO / President,

2. Utilizing contacts in the industry, or
 3. Overseeing business development and marketing functions during the early stages.
- a. The Founders will first need to determine overall equity ownership based on the assumption that each Founder remains with the entity for a pre-determined period of time and adequately performs all of the applicable services referenced in the "Determination of Roles" section above. For example, assuming the NAF is highly qualified and experienced in the company's industry, the parties may allocate equity on a 50/50 basis. Initial ownership percentage of the NAF will likely range from 20% at the low end to 50% at the high end.
 - b. The next step after carving up the equity is to determine what will be required of each Founder to "earn" the equity which is being issued as compensation rather than on account of a cash contribution. There are many options here, one of which is to vest one portion of the Founder equity over time (e.g. quarterly over a 3-year period) and the remaining portion based on either the entity or the applicable Founder achieving specific measurable milestones (e.g. unique users, licensees, revenues, etc.). Regardless of the vesting schedules, to avoid adverse tax consequences (both on future vesting dates and upon a sale of the company), each Founder should work with his or her accountant to ensure an 83(b) election is filed with the IRS no later than 30 days from the date of issuance of any compensation equity to such Founder.

EQUITY REPURCHASE RIGHTS

There are various scenarios under which the Founders will likely want to provide the company with the ability to repurchase or recapture some or all of the equity issued to a Founder. Some of the more common repurchase rights, each of which merit discussion between the Founders at the outset, are as follows:

1. Termination of Employment or Consulting Arrangement - In the event either Founder either voluntarily leaves the company or is terminated by the company, the company will often be entitled to repurchase all equity held by such Founder for a purchase price equal
 - a. the amount paid for such equity for all vested equity (which will be \$0 for compensation equity), and
 - b. "fair market value" for all vested equity ("fair market value" to be defined within the investment documents).
2. Death of a Founder - Often unvested equity will be forfeited and vested equity is subject to repurchase from the deceased Founder's estate at "fair market value."
3. Divorce or bankruptcy of a Founder - In these "involuntary transfer" situations, to the extent the applicable judge/trustee elects to award equity to someone other than the Founder, unvested equity will be forfeited to the company and vested equity will often be subject to repurchase at "fair market value."

There are a number of related issues which sometimes come into play with regards to repurchase rights, including:

- How to address a situation where one or both Founders are not full-time with the entity, as it some-

times becomes difficult to ascertain whether or not a Founder has terminated his or her relationship with the entity,

- The right of the company to pay a portion of any purchase price by issuance of a promissory note,
- The purchase of key man life insurance policies to support the repurchase of equity upon the death of a Founder, and (iv) accelerated or partial-accelerated vesting upon any sale of the company and/or in the event a Founder is terminated by the company without “cause” (to be defined within the investment documents).

MANAGEMENT

While not required by the limited liability company statutes, it is often a good idea to set up the company such that it is manager-managed rather than member-managed. The “Board of Managers” would be the strategic/high-level decision-making body, while officers can be designated to handle day-to-day affairs of the company.

In a 50/50 scenario (2 equal Founders), the Founders should discuss methodology for resolving deadlocks/disagreements. Potential solutions include, but are not limited to:

- Mediation or arbitration when disputes arise
- Forced Buy/Sell, where either Founder can submit a dollar figure to the other Founder, and the other Founder can either buy the submitting Founder’s equity at that price or sell to the submitting Founder at that price
- Submission of issue to the members (equity holders) if there are other equity holders who or which have the full trust of the Founders
- Simply requiring that the Founders work through the issue (often the case in very early stage businesses)

In any event, in a 50/50 scenario it is often beneficial to find a third board member at the appropriate time to, among other things, avoid deadlocks. If one Founder will control the voting/decision-making within the entity, the other Founder may request that certain material actions not be permissible without a “super-majority vote”; such actions include, for example:

- Going into a different line of business,
- Selling the company,
- Paying compensation in excess of \$_____ to any individual, and
- Issuing incentive equity beyond a pre-agreed amount.

FUNDRAISING

The type of investors that you will seek for the company will depend on the type of company that is being built, the stage of development, and the capital needs. The most common are sweat equity, friends and family. Usually, the founders each put some of their personal funds into the enterprise during its early days to help with expenses such as travel and incorporation. More committed entrepreneurs, especially those without co-founders, may put a considerable amount of their own money into the company, frequently using credit-card and home-equity debt as an adjunct. Often, entrepreneurs will tap their friends and families as mini-angels to provide initial funding. Asking for money from family and friends can be a difficult.

It is wise to be clear and upfront about your goals and intentions.

NON-PROFIT GRANTS

Not-for-profit foundations are often good places to seek funding if the mission and goals of your company aligns with the missions and goals of a non-profit foundation. Occurring more frequently in healthcare and social issues, foundations such as the Cystic Fibrosis Foundation have funded cystic fibrosis research in both industry and academia.

SBIRS & STTRS

Small Business Innovation Research (SBIR) and Small Business Technology Transfer Research (STTR) are federal grant programs that fund research in companies with fewer than 500 employees. These programs recognize that much of the United States' innovation occurs within the small-business sector, and they seek to stimulate further innovation in select areas of research. Over two billion dollars in grants are provided each year by agencies of the federal government under published solicitations. Awards have three phases: Phase I (up to \$225,000), in which new concepts are explored; Phase II (up to \$1 million), in which successful Phase I projects are developed into products; and Phase IIb (up to \$3 million) in which the Phase II projects are moved close to commercialization.

SBIR/STTR awards are made to the small business, but a portion of the funds may be subcontracted to a university laboratory, which can be a great source for managing proof-of-concept projects without having to pay for expensive infrastructure such as instrumentation in a private sector laboratory (up to 33 percent for SBIR and 60 percent for STTR during Phase I). SBIR/STTR awards are attractive to academic startups for two reasons: they play to the grant writing strengths of academic researchers; and they are outright grants, not equity investments (e.g., you don't have to give a piece of the company away to get the money). The major downside to the awards is that there can be a significant lag between Phase I and Phase II awards, and it may be difficult to keep research teams together (i.e. meet payroll) while the Phase II application is pending.

Many academics have been tempted to use the SBIR/STTR programs to extend their academic research instead of using the funds to build a company and develop products. Expert panels are utilized to review the grant applications both for technical and commercial merit. Applications that are academically focused are generally not accepted, but used in their intended manner, SBIR/STTR awards are excellent ways to fund early research in a new company, and the Phase II awards are substantial. Still, a company trying to build its entire line of products from SBIR/STTR grants without other investment is not likely to secure sufficient resources. For more information on SBIR/STTR programs check www.sbir.gov.

ANGEL INVESTORS

An angel investor is usually someone who has led the launch and development of one or more successful companies, followed by a successful exit. Angel investors often form groups so potential investments can be better evaluated. Each angel typically invests between \$25K- \$100K. If a group pools their money, the total amount of investment can reach over \$1 million dollars. Angel investors usually come in at an earlier stage than venture capital financing.

The Rio Grande Valley Angel Network is an active, local investment group and is a member of the Alliance of Texas Angel Networks. This alliance shares deals across the state so investment capital can be found at any of the 15 member groups under consistent terms.

Equity investors receive stock in the company, with the amount dependent on the value (“valuation”) of the company in proportion to how much they have invested. The cash value placed on a new company (“pre-money valuation”) is arbitrary and subject to negotiation, with entrepreneurs usually thinking high and investors low. It is inevitable that after multiple rounds of equity investment, the investors will own a majority of the shares of the company. At first, founders may view this outcome as “losing control” of the company (often called “founder’s syndrome”), but without external investment, the company would not be able to move forward.

INDUSTRY PARTNERSHIPS

A startup may also develop a strategic partnership with a larger company in which this partner helps the young company with product development, generally in the form of cash or collaborative assistance. Partnerships are an excellent source of non-diluted capital and also usually have an impact on the company’s valuation because they are used to validate the technologies. Partnerships are dependent on product stage of development and milestones. Care must be taken that these relationships do not alter the core company focus and are not structured in a way that will hamper future fundraising or sale of the company.

VENTURE CAPITAL FIRMS

Venture capitalists (VCs) are professional investors and money managers who manage and invest a pool of money from high net worth individuals and institutional investors who are looking for higher returns on their investments than the average stock market returns. There are thousands of venture firms out there, and many firms specialize in a particular industry.

There are more VCs focused on high tech than life sciences, simply because an exit in a life science usually takes much longer. VCs provide significant value that is much more than just money. Many VCs were former executives who launched and managed successful companies and thus can provide valuable advice and guidance. In addition, when a VC invests, you are getting the advantage of his/her entire network of contacts.

In addition to a return on individual investments, VCs make money by charging a management fee on the funds raised from individual and institutional investors. A VC firm’s reputation is based on its investment track record. If managers have below average success rates, investors are likely to choose different money managers.

Equally important as selecting the right CEO, is the selection of the right investors. Investors play a critical role in shaping the company, providing support, management, etc. The quality of your seed investors will play a key role in attracting future investments. Sometimes, the entrepreneur is in such desperate need for funding that he/she accepts investments from inexperienced investors. Such investors often have unrealistic expectations, little industry specific network, and little credibility with follow-on investors.

INNOVATION CORPS (I-CORPS) PROGRAMS

- NSF I-Corps
- I-Corps at NIH
- Energy I-Corps

NSF I-CORPS

The National Science Foundation (NSF) has established the Innovation Corps - National Innovation Network Teams Program (I-Corps Teams). The NSF I-Corps Teams Program purpose is to identify NSF-funded researchers who will receive additional support in the form of entrepreneurial education, mentoring and funding to accelerate innovation that can attract subsequent third-party funding. National I-Corps teams are awarded a \$50,000 NSF grant. This will facilitate the application of scientific discoveries into technologies and products that eventually benefit society. NSF aims to:

- Leverage NSF's investments and broaden the impact of funded research
- Prepare scientists and engineers to expand their focus beyond the laboratory – into entrepreneurship and commercialization
- Promote the commercial success and societal benefit of new technologies funded by the US government
- Turn ideas into companies
- Change the lives of researchers and the cultures of academic institutions

THE NSF & I-CORPS AT UTRGV

In 2017 the Center for Innovation and Commercialization (CIC) at UTRGV was awarded an NSF Site Grant, with the sole purpose to assist in the goal of furthering entrepreneurial education and accelerating innovation. The purpose of the NSF I-Corps Teams grant is to give the project team access to resources to help determine the readiness to transition technology developed by previously funded or currently funded NSF projects. The outcomes of I-Corps Teams projects will be threefold:

1. A clear go/no-go decision regarding viability of products and services,
2. Should the decision be to move the effort forward, a transition plan for those projects to move forward, and
3. A definition of a compelling technology demonstration for potential partners.

All technologies will be considered and can be at any readiness level. All UTRGV, faculty, house staff, and graduate students may apply. Those awarded applications must agree to:

PARTICIPATING IN AN I-CORPS™ WORKSHOP

The I-Corps™ Workshop is a 4-hour introduction to the lean methodology with a focus on customers and value propositions. Participants will learn the relevance of I-Corps™ and application in the commercialization pathway of academic ventures. Participants will understand how to generate relevant value propositions that meet a need of a specific customer segment. Participants will understand how to break customer segments in archetypes. Participants must attend 1 workshop to be eligible to apply for the Regional Program.

CREATING AN I-CORPS TEAM

The I-Corps team will consist of three roles:

- **Principal Investigator (PI):** The PI will be responsible for overall grant management. There is no specified limit on the number of Principal Investigators (PI). A PI may submit more than one I-Corps pro-

positional during each submission window.

- **Entrepreneurial Lead (EL):** The EL can be comprised of one faculty member or more, Resident, Post-Doctoral scholar, graduate or other student. Each member on the EL team should have relevant knowledge of the technology and a deep commitment to investigate the commercial landscape surrounding the innovation. The EL team should also be capable and have the will to support the transition of the technology, in case the I-Corps project demonstrate the potential for commercial viability. The approach to develop the technology disposition will be a structured hypothesis/validation approach. The EL team will be responsible for proceeding along a content-guided path to develop, over the course of the grant, a final technology disposition plan. OTC can often assist in helping you identify an EL team if you do not have one identified.
- **I-Corps Mentor:** The I-Corps Mentor will be an experienced or emerging entrepreneur with proximity to the institution and experience in transitioning technology to commercialization. The I-Corps Mentor will be responsible for guiding the team forward and tracking progress through regular communication with the Cognizant NSF I-Corps site director. The mentor is not paid for going through the program, but could become part of the venture if all parties so desire.

8. COMPLIANCE

PROCEDURE FOR MANAGING CONFLICTS OF INTEREST

- Scope of Procedure and Definition of Conflicts of Interest
- Managing Potential Conflicts of Interest
- Failure to Manage Potential Conflicts of Interest
- Duties and Obligations of Employees Serving on Boards of Directors
- Approval Process for Plan to Manage Potential Conflicts of Interest
- Submitting a Conflict of Interest Management Plan to UTRGV for Approval

SCOPE OF PROCEDURE AND DEFINITION OF CONFLICTS OF INTEREST

Conflicts of interest may arise when an employee participates in the business of, or has a financial interest in, a company that conducts business with a component institution in the area of the faculty members' responsibilities. This may happen in corporate sponsorship for research and in technology transfer. Conflicts of interest in the conduct of scientific research manifest themselves in two different, but related, ways: **conflicts of interest** and **conflicts of commitment**.

- **Conflicts of interest:** these occur if the employee's financial interest in a sponsor or licensee causes bias in the design, conduct, or reporting of research or educational activities.
- **Conflicts of commitment:** these arise when an employee's activities on behalf of such a sponsor or licensee company detract from the employee's teaching, research, clinical, or administrative duties.

Either of these conflicts may lead to, or be accompanied by, the inappropriate transfer of state resources or assets to the sponsor or licensee company for its exclusive benefit. Merely owning an equity interest or participating in the business of a sponsor or licensee introduces a potential for conflicts of interest.

MANAGING POTENTIAL CONFLICTS OF INTEREST

The Texas Legislature provides a legal mechanism for addressing potential conflicts of interest that may arise when a University employee involved in the development or creation of intellectual property acquires equity in, or serves as a board member, officer, or key employee of, a company that sponsors the employee's research or licenses the intellectual property. In exchange for permission to be involved with a company in this way, and if such involvement is permitted by the employee's component institution, the employee and the institution must successfully manage the potential conflict of interest to reduce or eliminate the likelihood that actual conflicts will arise.

The employee and institution should take the following steps to prevent actual conflicts of interest:

- **Disclose all potential conflicts of interest.** UTRGV employees must disclose both financial and fiduciary interests in the startup or research sponsoring entity, as required by Texas Education Code Section 51.912 and the Regents' Rules and Regulations, Rule 90101: Intellectual Property: Preamble, Scope, Authority. All UTRGV employees are required to disclose their outside activity to UTRGV at outsideactivity.utsystem.edu.

For more information please contact the COI officer at researchcompliance@utrgv.edu.

- **UTRGV will identify factors that may mitigate the likelihood of actual conflicts of interest.** For instance, whether a sponsor or licensee is publicly or privately held can affect the employee's status as a "key" employee. Also, a significant difference between the research emphasis of the sponsor or licensee and that of the employee may reduce the likelihood of actual conflicts of interest.
- **Implement effective management strategies to minimize development of actual conflicts of interest.** In managing financial conflicts of interest, UTRGV may
 - ◆ Assign independent departmental personnel to monitor the employee's research activities.
 - ◆ Require administrative review and approval of the employee's research projects that are subject to potential conflicts of interest.
 - ◆ Require modification of research plans or transfer portions of research to independent researchers, if necessary, to avoid actual conflicts of interest.
 - ◆ Consider divestiture or withdrawal from conflicted activity, if necessary, to avoid actual conflicts of interest where management appears unlikely to succeed.
- **UTRGV will carefully review sponsorship and license terms.** UTRGV will be looking at indications that the arrangement may not be an arm's length transaction. For example:
 - ◆ Grants of an equity interest to an employee that provide disproportionate compensation: (a) relative to the standard share of royalties a faculty member might receive for technology licensed to an unrelated company, or (b) relative to the services provided.
 - ◆ Licensing of inventions covering basic research that may cause the licensee to compete with the institution for grant funding; the present or near-term capacity to perform the essential functions outlined in the company's business plan.
 - ◆ Contracts-back to the institution of development work, which suggests that the technology could not have been licensed to a company in an arm's length transaction.

FAILURE TO MANAGE POTENTIAL CONFLICTS OF INTEREST

If attempts to manage potential conflicts of interest fail and actual conflicts develop:

- The employee must **disclose actual conflicts** in all oral presentations and publications resulting from the conflicted research.
- The employee must divest significant financial interests and/or sever the relationship with the sponsor or licensee, or withdraw from conflicted institutional activity.
- The employee will be subject to appropriate internal disciplinary action.
- The employee may be subject to applicable civil and criminal liability.

APPROVAL PROCESS FOR PLAN TO MANAGE POTENTIAL CONFLICTS OF INTEREST

- **Approval and execution of the Conflicts of Interest Management Plan.** Any transaction agreement (i.e., options, licenses, sponsored projects) that raises potential conflicts of interest require a conflict of interest management plan, approved and executed in advance.
- **Employee Certification.** To begin the approval process, employees must indicate to their institution's conflict of interest officer by a written document:
 - ◆ They have read and understood this procedure and the institutional plan to mitigate/eliminate the conflict;

- ◆ They have disclosed and will continue to disclose their financial interests and business participation, as required by law and UTRGV's policies and procedures;
- ◆ Whether any mitigating factors apply; and
- ◆ The steps they will take to reduce or eliminate the likelihood of actual conflicts of interest.
- **Conflict of Interest Officer Certification.** The COI officer must indicate to the EVP of Research, Graduate Studies, and New Program Development by a document:
 - ◆ The conflicted employee's name;
 - ◆ Basic details of the associated transaction, if any;
 - ◆ Whether the associated agreement contains standard liability safeguards (e.g. warranties and indemnifications);
 - ◆ Any previous related transactions;
 - ◆ All relevant dates;
 - ◆ A clear and concise summary of those aspects of the related transaction that raise potential conflicts of interest (i.e. details of equity and/or business participation in a company by a faculty member or the Board);
 - ◆ Mitigating factors, if any, and
 - ◆ The steps UTRGV will take to reduce or eliminate the likelihood of actual conflicts of interest.
- **Approval of Conflict Management Plan.** Upon receipt of the written documentation, the EVP for Research, Graduate Studies and New Program Development will approve the plan to manage potential conflicts of interest.
- **Approved Plans.** Copies of approved plans will be distributed to the conflicted employee, uploaded into the outside activity portal (outsideactivity.utrgv.edu) and kept in the records of the Office of the Research Integrity and Export Controls Officer (who acts as the COI officer), and a courtesy copy is kept at the Office of Technology Commercialization.

9. ADDITIONAL TIPS FOR UTRGV ENTREPRENEURS

CAN I DO RESEARCH IN MY ACADEMIC LABORATORY FOR MY STARTUP?

Once the company is incorporated, all research related to the startup needs to be conducted within the startup. There are strict regulations forbidding startup companies from conducting the company's work within the walls of the academic institution. Using the university's facilities can result in grave penalties for the institution and the researcher.

Sometimes, however, the academic lab pursues basic research that is complementary to the company's product development work. In other instances, if proof-of-concept or reduction-to-practice experimentation still needs to be done, the academic laboratory may be best equipped to perform the work. In these cases, the startup can enter a sponsored research agreement with the founder of the startup. Funding from startups to the founder's academic laboratory needs to be cleared by the Office of Sponsored Research and the COI officer. Often the founder is not allowed to receive the funds if he or she has a significant financial interest (i.e., stock or other ownership interest).

Regardless, the faculty member will need to develop a plan for going forward with the research in such a manner that potential conflicts have been mitigated. Such plans generally pay special attention to graduate student and human subject involvement in the research and to public disclosure in publications resulting from the sponsored research, and to corporate ties. Ultimately, a research contract will be negotiated between the company and UTRGV Office of Technology Commercialization (OTC) through which the company will gain prospective licensing rights to the results of the research and any associated intellectual property.

DO I NEED AN OPTION OR LICENSE FOR THE STARTUP?

OTC encourages the founder to consider an option rather than a license. An option is fast and less expensive and, further, it gives the entrepreneur more time to raise funds. Legal fees for patent prosecution are typically deferred during the option period; however, the company agrees to reimburse OTC for such legal costs upon license execution. The company has an exclusive right to license the technology as long as the agreed upon conditions are met before the license option expires. A term sheet, which sets forth all the business terms, is typically attached to the option and can serve as a starting point for license negotiations.

Assuming there are not multiple potential licensees competing for a technology, OTC is generally willing to grant an exclusive option for 6 months to the licensee and term extensions are possible. The company has the right to exercise the option if agreed upon conditions are satisfied which might include raising a certain amount of capital, finding a CEO and completing a business plan.

WHAT TO EXPECT WITH THE STARTUP LICENSE

Input from the inventor is important in licensing decisions. However, because of the inventor's potential conflicts-of-interest, he or she needs to negotiate with UTRGV from an "arms-length" relationship. In general, UTRGV gives priority to startups founded by UTRGV researchers; however, agreements with

faculty-initiated companies need to be reviewed carefully to ensure that UTRGV is justified in granting rights to the technology to the startup (as opposed to a larger company). For this reason, a startup must demonstrate that it is better positioned to commercialize the invention than another large, more established company.

UTRGV OTC negotiates and executes license or option agreements. These agreements are contracts between the University and a company that detail which rights of the technology belong to the University and which are granted to a company in return for financial and other benefits.

It is important for the founder and the businessperson from the startup to be familiarized with the general license template and financial terms for startups at UTRGV. License negotiations can be very fast or take several months. In general, the length of the negotiation depends on the experience of the management team in transferring technology out of the university environment into a startup.

Universities are required by the Bayh-Dole Act to include diligence terms to ensure that significant progress is being made towards commercialization of the invention. Business and development plans are required. These plans need to include basic information such as: the company's purpose, a description of the technology, a market analysis, opportunity, stages for development, timelines, milestones, and a financing plan. The business plan is not a procedural manual but more of a high-level view of the startup's intended structure and function. Because business plans are subject to frequent revision as directions change, they are a snapshot of the company at a particular point in time. The exercise of writing the plan is itself invaluable in that it makes the entrepreneur confront the key aspects of building a new business and form realistic rationales for why he or she believes the company will be successful.

Once the license is executed, the licensee will reimburse UTRGV for the legal costs associated with the prosecution of the IP. If, for some reason, extraordinary legal expenses have been accrued during the prosecution of the intellectual property, a reimbursement payment plan will be established to help the startup spread out costs over time in the short term.

SOME GENERAL TERMS TO EXPECT IN THE LICENSE

- Field of use restrictions, since a startup company often cannot develop all the applications of an invention.
- Performance milestones expected to be met by the company which may include completion of an acceptable business plan; putting the initial management team in place; product development stages; clinical and/or market testing; initial rounds for financing; commercial product introduction ("first commercial sales"); and/or minimum revenue targets during the first five years.
- Maintenance fees to ensure that the company is serious about developing the invention. In order to help the startup, the maintenance fees may be delayed/waived the first year.
- Requirement of sufficient insurance as specified by UT Systems Guidelines.

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APPENDIX A

DO I NEED INTELLECTUAL PROPERTY RIGHTS?

There is no requirement to have intellectual property rights to start a company, but protecting intellectual property that is key to the business is an essential element of the commercialization process. Holding intellectual property rights in technology serves as a barrier to entry against competing companies that might want to replicate a startup's product. For this reason, the majority of investors usually prefer that the core technology is protected. For example, in the case of a patent, technology that is protected can help give the startup an edge over competitors because once a patent issues, the startup can prevent others from making, using, or selling a product that is claimed in their issued patent.

Some academic companies are founded on intellectual material that lies within the public domain and for which no intellectual property protection is available. If this is the case, there may not be a need to secure a license from the academic employer. Companies without intellectual property assets ordinarily do not attract large amounts of outside investment capital, however.

Modest-investment companies do not need intellectual property in order to get off the ground. Most often, the importance of intellectual property becomes apparent later on, when the company sells the product or service and knock-off competitors arise. Strong intellectual property protection helps a young company to put its stake in the ground and gives the company a way to defend their market position against those who may try and copy their products.

The management team will have to decide what sort of intellectual property protection is needed based on the market for their product and relative cost to secure the rights compared with the ability to recoup those costs. Some intellectual property rights are expensive to secure, like patents, and others are relatively inexpensive, like copyrights. Trademarks are another way a company can begin to create value when customers associate the trademark or 'brand' with their products or services. Where a company may have know-how or information that would be better kept behind closed doors, maintaining trade secrets is another way to build value for the company in the form of intellectual property. Many times, there are opportunities to use different protection strategies at the same time. For example, a product brand name might be protected by a registered trademark, and the product itself may also be protected by securing patent rights in the underlying technology.

APPENDIX B

ADDITIONAL QUESTIONS TO ASSIST YOU IN GENERATING AN ELEVATOR PITCH

- What is the unmet need?
- How many people, companies, or other entities are seeking to address this need? In the United States? Worldwide?
- Is the incidence of the problem growing or declining? At what rate?
- How is this problem currently solved or avoided?
- Who sells products that address this problem? What are their annual sales? What is their estimated share of the market?
- What products for solving this problem are in other companies' development pipelines?
- What are the strengths and weaknesses of existing products in this market?
- How do people make buying decisions in this market?
- Why would a buyer choose your product over the others?

BUSINESS PLAN OUTLINE

1. **Executive Summary** - The summary tells your whole story, in about one page. Your summary should be a concise, high level description of what your business will be, in terms of the market opportunity, the technology, the investment required, and the rewards associated with the project. It is often best to write your summary after you have completed the rest of the plan.
2. **Introduction** – Your introduction should give a description of the core technology and how it can and has been used. You set out marketing goals and objectives and what you are offering to reach those goals and objectives. You can give a history and the current status of the research that led to the technology. You should succinctly summarize why your solution is different/better than other ways the customer solve the problem. It can be helpful to discuss the intellectual property – both yours

and others – that will be relevant in your target market.

3. **Market Analysis** - The marketing plan (along with the financial statements) is the most important part of a business plan. You need to demonstrate a thorough understanding of customers and their needs, and your competition (any alternative approach to what your business is offering) for those customers. It is important to have a market focus, and not try to do too many things at once. The number of customers, what percentage of customers you plan to capture, and how much each customer will pay for your product or service need to be quantified. Your approach for convincing customers to buy from you also needs to be well thought out and explained.
4. **The Product/Service** - This section provides a concise explanation of the needs of your target market (as identified above) and describes how your business will meet those needs. This is accomplished through a clear description of your product and/or service, highlighting significant features. Most importantly, you will describe the benefits of those features to your prospective customers.
5. **Strategy** - Your business strategy represents the synthesis of all of the factors that will determine the success of your company. A strategy provides a plan to enter and capture customers in your target market in what either is, or will be, a competitive environment. Three general ways you can position your business are: 1) be the low-cost supplier; 2) offer something different from what is otherwise available to your prospective customers; or 3) segment the market and go after only a portion of the total market on either a cost or differentiation basis, or some combination thereof. These are only broad strategies and are not the only possibilities. Whatever your approach, the strategy you develop needs to be consistent with respect to all internal and external factors related to your business.
6. **Management Team** - While your marketing plan and financial statements are the most important part of your business plan, the management team is the most important component of your business. Management is responsible for executing the business plan. The team should inspire confidence in potential investors that they can accomplish what is presented in the plan. Understanding of, and experience in, the company's core technology, all facets of business, and small business operations should be represented on the team. Be prepared and open to having outside members who can, among other things, help facilitate strategic partnering, raise money, and provide general guidance to company management. You might also want to consider establishing a technical advisory board, which can give credibility to the company's technology platform and advise in development of both current and future innovation.
7. **Capital Recapture/Exit Strategy** - This section of your business plan answers the question, "How do investors get their money out of your business, with their desired return, in roughly 3 to 5 years?" Options include selling shares/company stock in a venture capital financing round or a public market, such as the NASDAQ or NYSE, a buyout of investor shares buy management or the company, the sale of the business to another firm, or dissolution of the business, with proceeds from the sale of assets going to the investors. In thinking about an exit strategy, you will want to try find out how companies like yours paid back their investors. If you do not plan on having investors, you will not need this section in your business plan.
8. **Risk & Risk Management Plan** - As Scottish poet Robert Burns noted, "The best laid plans of mice and men often go awry". No matter how well you have researched and planned your business, the one thing you can expect with certainty is that things will not go exactly as you had hoped. Risk ar-

risks should be identified in advance for all aspects of the business. In addition, you will want to give some thought as to how these areas of risk might be dealt with or contained. Examples of risks you may want to consider include the following: intellectual property risk (your patent is not allowed, or issues with narrower claims than you expected), market risk (eg. your customers don't adopt your product or service as quickly as you planned), financial risk (eg. you need more money earlier than you planned), technology risk (eg. you run into unanticipated technical hurdles in developing your product or production capabilities), and management risk (eg. you are unable to hire a key employee when you need him or her). Investors are usually more favorably disposed toward a business where the management is aware of potential problems downstream and has given thought about how to mitigate those risks.

9. **Financial Statements** - An Income Statement, Balance Sheet, and Statement of Cash Flows provide, respectively, information about your expected revenue streams and the costs associated with generating those revenues, with calculations of the various profit margins you plan to generate, the company's assets, liabilities, and ownership interests, and the various ways that money will come into and go out of the company. They should convey a complete financial picture of what your business looks like at the present time and going forward. The assumptions you have made in preparing the financial statements are a critical part of the statements and should be explicitly included in your plan. It is a good idea to examine the effect of changing your assumptions on the financial statements. You do not need to include an analysis of this, but you should be prepared to discuss the subject. In addition to providing information to potential investors, financial statements will serve as a check for the company's management going forward to see if things are going according to the plan. Most university researchers do not have the background to put together financial statements for a business plan, so you will want to find help in doing so.