

UR VENTURES Startup guide

FOR ACADEMIC ENTREPRENEURS

Our mission is to ensure that University of Rochester innovations enrich our community, improve our society, and make the world *ever better.*

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UR Ventures Startup Guide

PROLOGUE

SO YOU WANT TO START A COMPANY...

Starting a new company from scratch can be a gratifying and exhilarating experience unlike no other. And for university research innovators, spinning out a startup venture offers greater autonomy and control over the development, marketing, and strategic direction of the technology when compared to licensing it to an established firm.



That said, this path requires a considerable and sustained investment of time and energy and is not right for everyone. A realistic and grounded appreciation for the complexities and challenges associated with launching a startup is critical before proceeding down this road.

In this guide, we aim to demystify the process of spinning out university startup ventures. We will cover the unique considerations of launching a startup based on academic research, critical steps involved in starting a new business, key terminology, common pitfalls to avoid, and much more. We will also highlight local and regional resources for early-stage founders. Whether you are a seasoned founder or embarking on your first entrepreneurial endeavor, we hope this guide helps you navigate the journey with more confidence and clarity.

For general information on how technology is commercialized from the university, refer to <u>The Guide for Technology Commercialization at the University of Rochester</u>.

CHAPTER 1 Important Questions to Consider



Why start a company in the first place?

One can envision many reasons and motivations for starting a company. However, from a commercial standpoint, a company has one objective: to develop and sell products or services that are profitable enough to justify the effort and funding required. The startup road is long, arduous, and sometimes rocky, so ensuring that you are launching a company for the right reasons is wise. Table 1 summarizes some examples of Rational Reasons to launch a university spinout company. Examples of Questionable Reasons for starting a company are also provided.¹

Rational Reasons	Questionable Reasons
 People have been asking me, 'Where can I get one of those?' No existing company has shown interest in licensing my technology, and I'm determined to bring it to market myself by starting my own company. By creating commercial products rather than just publishing my findings, I can maximize the real-world impact of my ideas. This is a chance to run a small business focused on selling products within a specialized niche market. After learning from the challenges of my first venture, I now have a stronger understanding of market demands and am ready to try again. 	 A friend, relative, acquaintance suggested that I consider starting a company based on my research. Securing investments for my research might be more efficient than relying solely on grants. My research is just as interesting as my colleague's, and they started a company, so why shouldn't I do the same? I've reviewed SBIR (Small Business Innovation Research) grant applications and noticed my own unfunded proposals often surpass the quality of those awarded. Starting a company seems like a practical way to fund my research. The hard work has already been done in my research lab—bringing the technology to the market via a startup should be straightforward. A company could complement my academic research by taking on tasks I don't have the resources or bandwidth to address. The outside company can do whatever I tell it to. A startup is a relatively fast and easy path to financial success. Running my own company as CEO is more appealing than working for someone else in an established business.

Table 1. Rational versus Questionable Reasons for starting a company. Adopted with permission from Northwestern's Guide to Starting a Company: Fundamentals of Academic-based Startups¹.

Even with rational reasons for starting a company, it is still worth taking the time to reflect on the personal and business-related questions below²:



How will the company affect your personal life and academic career?

- Have you reflected on your personal needs and your financial goals?
- What specific rewards, both financial and personal, do you hope to gain from the business? Are these rewards worth the effort and investment?
- Have you considered the needs of your family in this decision?
- In what way(s) will starting a business provide you fulfillment?
- Are you more passionate about running a business or maintaining your university position?
- Will this new venture conflict with your current academic career goals, such as getting tenure?
- How will you balance the company's demands for your involvement in product-related activities with your academic research and teaching responsibilities?
- How might your role as a business owner influence your relationships with academic colleagues, including graduate students and collaborators?
- What is the worst-case scenario if you start your own business? Are you prepared and willing to handle this worst-case scenario if it occurs?

Important business questions to ask yourself:

- What is the problem or unmet need you're trying to address?
- What is the size and forecasted growth rate of the addressable market? What are the key market segments? Who are your target customers?
- What is the "cost" (can be non-financial) of those experiencing the problem/pain point?
- What has prevented this problem from being solved already?
- What has changed in the market, technology, or human behavior to make now the right time for this technology?
- What product/service have you designed/developed to tackle this problem? What is the value proposition of your technology with respect to this problem and the market?
- Have you conducted market research to verify demand, or are you just assuming there is a need for your product or service? Have you received external feedback from potential stakeholders?
- Who is your competition? What are the competitive advantage(s) of your technology against competitive technologies (existing and those still in development) across key dimensions that stakeholders care about?
- Does your company have access to intellectual property (IP) that provides a proprietary position and a competitive edge? What is the status of this IP and how long will your IP protection last? Will your new company have "freedom to operate" without legal or regulatory barriers?
- What does the development path look like for your technology? What are the key inflection points along the path toward commercialization? How much money and time do you need to reach these inflection points?
- If your product requires research and development, how will you finance the company until sales can support the operating expenses?
- If you need to raise capital to start your business, do you have personal funds or assets you can leverage?

- What additional funding sources will you seek once you have a business plan in place, such as SBIR/STTR grants, industry partnerships, angel investors, and/or venture capital?
- What are the biggest risks (e.g. technical, commercial, regulatory, key personnel, other) that may impact your startup in the short and medium term? Do you have mitigation strategies for these risks?
- Who is on the founding team? Who is on your advisory board? What is special about you and your team that will allow you to be successful?
- What business and management skills are essential for the development of your technology and the successful operation of the business? Do you possess these skills? Be honest in your assessment. If you lack certain business and/or management skills, are you willing to bring in business partners or employees with the expertise you need?
- Are you open to sharing company ownership (i.e. equity) with partners and employees whose skills are crucial for success?

Commercializing early-stage technologies is never a straight road, and inevitably there will be surprises and obstacles along on the way. But a realistic evaluation of personal and business considerations will give you more clarity to make a sound "go" or "no-go" decision. In addition to asking yourself the questions above, we highly encourage potential founders to seek input from a wide range of experienced people especially those who do not have, and are not expected to ever have, a vested interest in your startup's success. Be sure to check out Chapter 12 of this guide for a list of startup resources.

CHAPTER 2 Attributes of a Successful Startup



Innovative scientific discoveries or technological advancements are table stakes in the business world—while they are necessary, they are not sufficient for building a successful business venture. A quick search for the top reasons startups fail³ indicates that failure was not due to the technology per se, but rather because there was insufficient need, money ran out, the business model was not viable, or the team wasn't right. While there is no universal formula for a successful startup venture, there are several ways that startups can increase their chances of success.

Attributes of a Successful Startup¹

- Address a Real Market Need: Often, new ventures fail because they are founded on the notion that "If you build it, they will come". A new technology venture will be much more likely to succeed and have meaningful impact if it is focused on addressing a real and substantial market need. That said, identifying the right initial application, particularly for a platform technology, is easier said than done. When comparing multiple markets, look for where there is clear unmet need, a large established market or one with high growth potential, and opportunity for competitive differentiation (including against potential future entrants).
- **Product or Service Really Moves the Needle**: Innovative products and services are not enough. Startups should be built around technologies that have the potential to deliver unique value and "move the needle" for the customer/end user, not just "me too" offerings that provide incremental benefit.

- Strong Intellectual Property: While not all companies are built around intellectual property (IP), protecting IP is essential in cases where it does exist and is central to the business. Patents, for example, can provide a competitive edge by preventing others from replicating the product. Investors typically prefer startups with protected core technology as it serves as a barrier to entry for competitors. Other forms of IP such as copyrights and trademarks should also be considered as part of the overall IP strategy.
- Sufficient Capital: The financial demands of a startup depend heavily on the costs associated with bringing its product or service to market. The amount of capital the startup will need to raise depends on the time needed to get to market and the complexity of the commercialization process. Startups in capital-intensive fields (e.g. deeptech) must dedicate significant time and effort to securing partnerships and investment, and this is typically a never-ending process.
- **Right Team**: Assembling the right team is one of the most critical factors in the success of a technology startup. The right people at the right time can mean the difference between overcoming setbacks and succumbing to them, ultimately shaping the startup's trajectory toward growth and long-term success.



- **Right Timing**: Getting the timing right is one of the hardest questions researchers face as no one has a crystal ball. When it comes to timing, some startups get plain lucky, while others miss the window of opportunity. The main thing to understand is that academic research discoveries are typically far from market-ready products and have a high risk of failure. Since earlier-stage discoveries carry higher levels of uncertainty, raising funds for these types of ventures becomes that much harder. Researchers must understand the risks involved in bringing their discoveries to market and use this knowledge to evaluate the current investment climate through their networks. Entrepreneurs should also recognize that different types of investors have different risk tolerances. Seed stage investors typically support high-risk at earlier stages, while Series C investors focus on more mature, de-risked ventures. Regardless of market conditions, significant effort will still be required to secure funding.
- Access to Specialized Facilities: Academic startups often struggle with limited access to space, equipment, infrastructure, and other resources necessary for development and prototyping of their technology outside the university, for example maker space, microand nanofabrication suites, or BSL-2 wet lab space. Additional information about available facilities in Rochester and the neighboring region can be found in Chapter 12.



If you decide that a startup is the right choice for you, what steps come next and in what order? The good news is that there isn't one single formula that must be followed. The bad news is that since there isn't one magical formula, each startup needs to figure out what works best for them based on their unique needs and circumstances. Outlined below are suggested steps for starting an academic startup¹. Note that the sequence below prioritizes 1) compliance with the policies and practices of the academic institution regarding IP and conflicts of interest, and 2) keeping expenses to a minimum at the beginning. In practice, many of these steps often happen simultaneously or in a different order than outlined.



Startup Roadmap

Protect IP - In the early stages of a startup, IP is the only asset the company has and is critical for fundraising. Talk with your technology licensing specialist at <u>UR Ventures</u>, University of Rochester's technology transfer office, to determine what type of IP protection you will need and what the next steps of the process are. Make sure you have a patent application filed before making any public disclosures. <u>Disclose your invention to UR Ventures here</u>. Remember to familiarize yourself with the <u>UR IP</u> and <u>Conflict of Interest</u> policies. Another useful reference is the <u>Guide for Technology Transfer at the University of Rochester</u>.

2 Derisk Technology and Business Concept - The university can be an excellent place to derisk the technology and business concept before committing to launch a business. At the University of Rochester, researchers can apply for Technology Development Funding to further develop their technologies with non-dilutive funding from UR Ventures. Researchers at the University of Rochester can also apply to participate in the NSF I-Corps program within the Interior Northeast hub, where they can explore the commercial potential of their work and develop entrepreneurial skills. The Ain Center for Innovation and Entrepreneurship offers education, programming, pitch competitions, and other resources for early stage entrepreneurs at the University of Rochester. There are several other free hybrid and virtual accelerators open to researchers at the University of Rochester that provide education, programming, networking, and other resources (see Chapter 12). Furthermore, we strongly advise prospective founders to partake in non-confidential conversations with potential customers, partners, and other stakeholders to get feedback and insights on the market need, commercialization paths, and key business considerations.

- **3** Find a Mentor(s) Startup mentors are experienced entrepreneurs, investors, or industry experts who provide guidance, advice, and support to early-stage founders. Mentors can offer critical feedback, share insights from their own experiences, expand a founder's network, and help prevent common pitfalls. Their perspective and connections can be invaluable in accelerating growth and refining a startup's vision. One of the most effective ways to meet potential mentors is through networking, a skill every entrepreneur should cultivate.
- Develop a Business Plan A business plan is a document that outlines a business's goals and objectives, and how it will achieve them. Startups sometimes (but not always) need a business plan to raise money. Regardless, the process of drafting a plan is valuable as it forces the team to think about how it will structure, run, and grow the business. (See Chapter 8)
- 5 **Execute a Founders' Agreement** Before or in parallel to forming a legal entity, startup founders are encouraged to have an open and honest discussion and document in writing the key terms they agree to as part of forming the company. (See Chapter 5)
- 6 Incorporate the Business The company needs to become a legal entity before it can license the technology from the University. (See Chapter 5)
- Negotiate the License or Option Agreement with UR Ventures The business leader of the startup will need to work with UR Ventures to negotiate a license for the company. In some instances, a short-term option agreement may precede a license to show potential investors that the startup has secured the rights to negotiate a license for the technology. See below.

8 Raise Funds for the Startup - Commercializing technology usually requires a continuous influx of capital until the business can survive off of the revenue it generates or achieves an exit through a merger, acquisition, or IPO. (See Chapter 9)

Frequently Asked Questions

Can I do research in my academic laboratory for my startup?¹

Once a company is incorporated, all research related to the startup must be conducted independently of the academic institution. Regulations strictly prohibit startups from using university facilities for their operations, as this could lead to significant penalties for both the institution and the researcher. However, academic labs can sometimes perform complementary basic research that aligns with the company's product development. If additional proof-of-concept or reduction-to-practice experiments are needed, the academic lab may be better suited for the work. In such cases, the startup can either establish a sponsored research agreement with the academic institution, enabling the founder's lab to conduct the necessary research. Alternatively, the small business can apply for SBIR or STTR funding and subcontract a portion of the funds to the university lab (historically up to 33% for SBIR and 60% for STTR during Phase I) for specific activities. See Chapter 9 for more information on SBIR and STTR grants.

Funding provided by the startup to an academic lab at UR must be approved by the <u>Office of Research and Project Administration (ORPA)</u> and reviewed by UR's Conflict of Interest committee. The faculty member must also develop a plan to address and mitigate potential conflicts of interest. These plans typically include considerations for graduate student and human subject involvement, public disclosures in publications resulting from the research, and ensuring corporate ties align with academic standards.

Ultimately, the startup and the university will negotiate a research contract, granting the company the opportunity to license rights to the research results and any associated intellectual property. Sponsored research agreements are negotiated by <u>Office of Research and Project Administration (ORPA)</u> with support from UR Ventures on IP terms.

For more information, please see the following policies:

- <u>UR Conflict of Interest Policy and Procedures</u>
- UR Policy on Faculty Conflict of Commitment and Interest

What's the difference between an option and a license?

Startups can either take an option or a license for university IP. An option provides a company with the exclusive right to negotiate a license for a specified period of time, typically one year, provided that agreed-upon conditions are met before the option expires. This period allows the startup to evaluate the technology, secure funding, and develop a business plan without committing to a full license upfront. A license, on the other hand, is a formal agreement granting the company the rights to use, develop, and sell products based on the university's IP, typically in exchange for fees, royalties, equity (in the case of startups), and performance milestones. Sample agreements for reference and discussion can be found on <u>UR Ventures Sample Agreements Webpage</u>.

What does the startup license encompass?¹

The inventor's input plays an important role in licensing decisions; however, due to potential legal conflicts arising from sponsored research obligations, conflicts of interest, and differing visions for the company, the licensing decisions rest solely with UR Ventures. UR Ventures will strongly consider licensing technologies to startups founded by its researchers; however, the founding team must demonstrate that their startup would be in a stronger position to bring the invention to market as opposed to a larger, more established company.

Founders and startup representatives should familiarize themselves with <u>UR Ventures' standard license templates</u>. The time it takes to negotiate a license varies, depending on the management team's familiarity with transitioning technology from the university to a startup setting.

Under the Bayh-Dole Act, universities are required to include diligence terms in licenses to ensure steady progress toward commercialization. This involves submitting a business and development plan outlining the company's purpose, the technology, market analysis, development stages, timelines, milestones, and a financing strategy. While this plan is not expected to be static, and will inevitably evolve as the startup matures, the plan provides an overview of the company's vision and strategy at a specific point in time. Preparing the plan is, in and of itself, a highly useful process that forces researchers to contemplate the key elements of their business and develop well-reasoned strategies for success.

Typical licensing terms may include:

- **Grant Clause**: Describes the scope of the license, including the specific rights being granted (e.g., to make, use, sell, distribute, and sublicense). Clarifies any limitations, such as specific fields of use or territories (geographic area) where the licensee can operate. Note that startups are often unable to develop all potential applications of the invention.
- **Exclusivity**: Specifies whether the license is exclusive (only one licensee) or non-exclusive (multiple licensees). Outlines any conditions that must be met to maintain exclusivity.
- Financial Obligations: Combination of upfront fees, milestone payments, a royalty on product sales, minimum annual payments, reimbursement of patent expenses, and sublicense payments (where applicable). These obligations may also include a small share of equity in the startup.



- Diligence Requirements: These requirements ensure that the licensee is using reasonable efforts to develop and commercialize the licensed technology. Examples include completing an acceptable business plan, assembling the management team, progressing through product development stages, conducting clinical or market testing, securing initial funding rounds, introducing a commercial product, and meeting minimum revenue targets within the first five years after commercial launch.
- Intellectual Property Rights: Details how the licensed patents and related IP will be managed, prosecuted, maintained, and enforced. Addresses who is responsible for patent prosecution and who will bear the costs. Details how infringement claims will be handled and who will bear the associated costs.
- **Confidentiality**: Establishes confidentiality obligations for both parties regarding sensitive information and trade secrets disclosed during the course of the agreement. Specifies what information is considered confidential and the duration of confidentiality obligations, both during and after the term of the agreement.
- **Reporting Requirements**: These requirements ensure the licensee provides regular reports on activities such as sales, sublicensing, and development progress. Mandates record-keeping practices and grants the licensor the right to audit the licensee's records to ensure compliance with financial and reporting obligations.
- **Reservation of Rights**: If the invention is derived from federallyfunded research, then rights are retained by the federal government and by the university and other non-profit institutions for use of the invention in research and educational activities.

What are startup accelerators and incubators, and should I join one?

Startup incubators and accelerators both offer support, resources, and networking opportunities with the ultimate goal of improving a startup's likelihood of success. Incubators and accelerators differ in their format, duration, location requirements, and application processes.

• **Startup incubators** help early-stage founders develop and refine their startup ideas. Incubators often operate locally and provide resources such as physical space, services, and support over a period of one to five years. Unlike accelerators, incubators are not cohort-based and can support startups at various stages, from pre-seed to Series A, depending on the company's specific needs. Incubators tend to be less competitive to join but still require founders to clearly articulate their idea, the market need, and the market size. Membership costs vary based on location and the type of space, services, and resources provided.

Benefits of joining an incubator include:

- Shared workspace with other entrepreneurs, such as office space, wet labs, or maker space
- On-demand access to resources like office services, lab equipment, meeting/conference rooms, and a café
- Curated workshops and networking opportunities
- Access to vetted partners, investors, and advisors, including legal consultants
- Funding in exchange for equity in some cases

• Startup accelerators are short, intensive programs designed to provide education, resources, and mentorship for early- to mid-stage founders. Accelerators are typically based around cohorts and are more structured than incubators. Accelerator programs are sometimes tailored to specific industries or stages of growth, and they may be virtual, hybrid, or require relocation. These programs typically last two to six months, with a more rigorous and selective application process than incubators.

Benefits of joining an accelerator include:

- Funding in exchange for equity (offered by some, but not all, accelerators)
- In-depth education on topics such as fundraising, product development, and growth marketing
- Access to a network of alumni and investor connections
- Opportunities for networking and collaboration with fellow participants
- Focused mentorship from industry experts



CHAPTER 4 Building a Strong Founding Team



The success of a startup often hinges on the strength and cohesion of its founding team. Skilled execution and strong management are essential, as early-stage companies face numerous challenges, from product development hurdles to fundraising and market entry. A well-rounded team with the right mix of technical expertise, business acumen, and industry experience can navigate these obstacles more effectively, ensuring that key decisions are made thoughtfully and strategically. Beyond individual talent, team dynamics, shared vision, and adaptability play a crucial role in driving the company forward.



Roles of Founders in a Startup Company¹

It is not unusual for first-time academic entrepreneurs to feel uncertain about their role in the creation and operation of a startup. A founder can be involved in the company in several capacities with varying rights and responsibilities. As the company grows, it is common for the founder's role to evolve. Faculty members typically choose to retain their full-time academic appointments while collaborating with the startup, whereas staff, postdocs, and graduate students are more likely to transition from academia to become full-time employees of the company. Like most academic institutions, the University of Rochester has clear policies outlining how faculty can engage with startups, including policies related to conflicts of interest, conflicts of commitment, sponsored research, and outside consulting. Faculty members should review <u>UR's</u> <u>conflict of interest policy</u> and consult with their department chair or Dean before moving forward with a startup. Ultimately a Conflict of Interest management plan will need to be prepared and approved by the Conflict of Interest committee.

Common roles faculty members take on in a startup include:

- Founder/equity holder
- Consultant
- Member of the scientific advisory board
- Member of the board of directors
- Recipient of sponsored research funding (incl. STTR/SBIR funding)

Often, the academic founders have a technical vision that shapes the startup's early research and development. They can have differing levels of involvement in building the business, including:

- Drafting the initial business plan
- Helping to recruit a CEO and other business leadership
- Preparing and giving presentations to potential investors
- Building out the core research and development team
- Establishing the company's presence in independent facilities

Many of these responsibilities require a considerable investment of time. Although the CEO usually oversees the initial business operations, it is sometimes the case that academic founders find themselves immersed in the company's early development. As the company builds out its team and operations, the academic founders' hands-on involvement tends to diminish. As the company becomes more mature, the academic founders can remain active in strategic roles, such as serving on the scientific advisory board or offering consulting support to guide the company's direction.

Selecting Co-Founders¹

When selecting company co-founders, researchers must be very careful and deliberate, as making the wrong decision can lead to complications and frustration down the road. Since co-founders share in the company's future value—through profits, equity, or other forms of compensation—it is essential to base this decision on each individual's anticipated contributions to the venture. Unlike authorship on a scientific paper, which recognizes past contributions, selecting co-founders requires forecasting who will create meaningful value for the company and determining how to fairly allocate that value. Startup co-founders should be people that have been vetted, have relevant startup experience, have a positive reputation, align with your vision and values, and bring complementary skills to the table. Ideally, co-founders brina entrepreneurial experience, a strong network, experience raising money from investors, and a track record of communicating honestly and following through on commitments.

Consultants and Mentors¹

Learning how to start and build a company for the first time is undeniably challenging, but tapping into the experiences of others can make the journey smoother. Researchers should seek out mentors who can provide qualified guidance and help open important doors. Networking is a helpful way to identify potential mentors, consultants, advisors, CEOs, corporate attorneys, insurance providers, and investors. Connecting with fellow entrepreneurs, provided they are not direct competitors, can yield invaluable insights, lessons learned, and practical tips on a variety of topics. Ideally, mentors should not have a financial stake in the company because it can create conflicts of interest and potentially undermine the trust and objectivity needed for effective guidance. On the other hand, startups must typically pay for consulting services.

Identifying the Right CEO¹

Choosing the right CEO is one of the most nerve-wracking and critical decisions academic founders will make for their startup. While it can be hard to relinguish control of a company you founded, one of the most common entrepreneurial pitfalls is assuming the role of CEO simply because the idea originated with you. There is often a tendency to undervalue the contributions of a strong business partner, but their expertise can make or break the company. Tasks such as fundraising, creating business plans, and establishing and managing essential company functions like human resources, purchasing, accounting, regulatory affairs, manufacturing, and sales and marketing are usually outside the expertise or interests of most researchers. The ideal CEO candidate brings prior startup experience in the relevant industry, has raised capital before, understands the science enough to communicate it effectively, and knows how to take a startup from 0 to 1. It is important to resist the temptation to hire the first promising candidate. Instead, take the time to thoroughly vet their references and assess their reputation with investors and industry peers. Also note that equity compensation should be tied to performance to maintain alignment with the company's strategic goals.

Board of Directors

The Board of Directors plays a pivotal role in guiding a startup's success. Elected by shareholders, directors are responsible for representing shareholder interests and ensuring the company's growth. At incorporation, founders select the initial directors, but over time, the board's composition may evolve to reflect the company's needs. The CEO reports directly to the board, which holds legal and fiduciary duties to oversee company operations and strategy. A strong board typically includes the CEO and outside directors—experienced professionals with no other role at the company. These outside directors often act as mentors, offering impartial advice, questioning assumptions, and supporting sound decision-making. Ideal board candidates offer complementary expertise, enhance the company's credibility, and facilitate connections with investors. To maintain flexibility for future growth, startups should avoid overloading the board with too many directors early on. Importantly, the board retains the power to replace an underperforming CEO, ensuring the company stays on a path to success.

Advisory Board

An advisory board is a panel of experts who offer specialized guidance to a startup but do not meet regularly as a group or hold legal and fiduciary responsibilities to the company. These advisors help fill gaps in the startup team in specific areas, such as industry and regulatory knowledge, and they can be brought on to address specific challenges, providing valuable insights without the formal obligations of a board of directors. Advisors typically consult one-on-one with founders and executives as needed. A Scientific Advisory Board (SAB) is a type of advisory board comprising distinguished experts in relevant scientific or technical fields who provide strategic technical guidance to the startup. The SAB helps the company stay at the forefront of innovation, evaluate research directions, and build credibility with investors, partners, and customers. Their insights can be invaluable for navigating technical challenges, identifying new opportunities, and ensuring the company's scientific foundations are strong and aligned with its business goals. Advisory board members are usually compensated with a modest allocation of stock options.





Forming a startup involves making crucial decisions about incorporation, equity distribution, management, and governance. These choices shape the company's future and should be approached thoughtfully, with professional guidance where necessary.

Key Considerations for Forming and Structuring a Startup:

• For-profit vs Not-for-profit¹

Most technology-driven startups are **for-profit** businesses whose mission is to generate profits for their shareholders. These companies pay taxes on their profits, and if the business dissolves, its assets can be liquidated and the proceeds distributed to the owners or shareholders.

Not-for-profit organizations are driven by goals focused on societal benefit, whether for the community, nation, or the world. These organizations are tax-exempt, meaning they are not required to pay certain taxes but must use their funds exclusively to advance their mission. While not-for-profits can generate revenue, any surplus must be reinvested into the organization's operations or, in the case of foundations, distributed to other not-for-profit entities. Additionally, if a not-for-profit shuts down, its remaining assets must be transferred to another not-for-profit.



• Forming a Legal Entity ¹

A startup becomes a legal entity only after formal incorporation in a specific state. While it is possible to incorporate independently at a low filing fee, seeking legal guidance from an experienced attorney is highly recommended. This investment can save significant frustrations down the line, ensuring that filings are accurate and the founders are shielded from personal liability for the company's debts.

Main Differences Between LLCs and C-Corporations

Entrepreneurs frequently choose between limited liability companies (LLCs) and C-corporations (C-corps). For university researchers spinning out a company, the choice between an LLC and a C-corp will depend on factors such as their growth strategy, funding needs, and administrative capabilities. LLCs and C-corps differ mainly in structure, taxation, and suitability for investment. LLCs are simpler, with pass-through taxation and flexible ownership, making them easier to manage but less appealing to investors. C-corps have a more formal structure, are taxed at both the corporate and shareholder level (double taxation), and are preferred by venture capitalists due to their ability to issue stock and standard governance. LLCs work well for small businesses, while C-corps are typically better for startups planning to raise significant outside funding to scale rapidly. Table 2 below summarizes the key differences between the most common legal corporate entities: sole proprietorships, limited liability companies (LLCs), S-corporations (S-corp), and C-corporations (C-corp).

Why Incorporate in Delaware?

Delaware is a popular state for incorporation because it offers wellestablished, business-friendly laws; a specialized court that efficiently handles corporate disputes; and strong protections for directors and officers. Its legal system provides clarity and predictability for companies and investors, making it especially attractive to startups and venture capitalists. Additionally, Delaware allows flexibility in structuring companies and offers privacy advantages by not requiring directors or officers to be listed in public filings.

Main Advantages of a C-Corp

C-corps offer key advantages for startups, particularly those planning to raise outside funding. The C-corp structure is familiar and preferred by venture capital firms and institutional investors. Importantly for investors, this structure allows for unlimited shareholders and multiple classes of stock, which is essential for issuing preferred shares to investors. C-corps also allow for equity compensation like stock options which is key for attracting and retaining employees. Beyond offering limited liability protection, Ccorps can also take advantage of potential tax benefits, such as Qualified Small Business Stock (QSBS) exclusions.

	Sole Proprietorship	Limited Liability (LLC)	S Corp	C Corp
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	Members are not held liable	Shareholders are not held liable	Shareholders are not held liable
Cost to Form	No fees for formation, but costs may be associated with obtaining necessary business- specific licenses or permits	Filing fee ranges from \$35 to \$500 depending on state; ongoing fees for maintaining status also apply and vary by state	Initial setup fees range from \$1,000 to \$3,000; annual fees for maintaining status also apply and vary by state	Initial setup fees range from \$1,500 to \$5,000; annual fees for maintaining status also apply and vary by state
Governance	Relatively few requirements	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
Management	Full control	Members can set up structure as they choose	Shareholders elect directors who manage business activities	Shareholders elect directors who manage business activities
Fundraising	Individual provides capital	Subject to operating agreement (Securities laws apply)	Shares of stock are sold to raise capital. Only one class of stock can be issued. Limitations prevent S-Corp stock ownership by corporations.	Shares of stock are sold to raise capital (Securities laws apply). No limitations to classes of stock that can be issued.
Term	Terminated when proprietor ceases doing business or upon death	Perpetual, unless state requires fixed amount of time	Perpetual: can extend past death or withdrawal of shareholders	Perpetual: can extend past death or withdrawal of shareholders
Taxation	Entity not taxable. Sole proprietor pays taxes.	No tax at entity level – income passed through to members	No tax at entity level – income passed through to shareholders	Taxed at corporate rate
Transferability of Assets	No	Depends on restrictions outlined in operating agreement	Yes, observing IRS regulations	Shares of stock are easily transferred

Table 2. Common Legal Entities for Corporations. Adapted with permission from Northwestern'sGuide to Starting a Company: Fundamentals of Academic-based Startups 1.

Establishing a Founders' Agreement¹

Before moving forward with a company, it is essential for founders to discuss and agree on key points such as rights, responsibilities, obligations, liabilities, ownership, and governance. A **Founders' Agreement** formalizes these terms and is typically prepared by an attorney. This step can be carried out in parallel to formation of the legal entity.

A. Defining Roles and Contributions

Founders must outline their respective contributions to the company. This includes:

- Specific responsibilities, at outset and in future (e.g., business development, fundraising, marketing, operations, R&D).
- Expected time commitments (e.g., full-time or part-time involvement).

This information often serves as the foundation for assigning "sweat equity," reflecting the effort and value each founder brings to the company.



B. Allocating Initial Ownership

Equity distribution typically accounts for both cash investments and sweat equity:

- Cash Contributions: If founders invest personal funds, a portion of equity may be allocated upfront (e.g., if each founder invests \$25,000, 10% equity might be issued to each as earned and vested shares as of the date of contribution).
- Sweat Equity: Founders may receive equity for contributing a combination of intellectual property (IP) and time ("sweat" equity).
 Equity allocation often includes vesting schedules to ensure longterm commitment.

For example, a highly experienced non-academic founder might negotiate for 20–50% equity (pre-options dilution), with vesting tied to specific milestones or timelines. Note that founders must file an 83(b) election with the IRS within 30 days of equity issuance to avoid adverse tax consequences.

C. Establishing Equity Repurchase Rights

Equity repurchase rights for founders are commonly included in startup agreements to protect the company in certain situations. These rights typically allow the company to repurchase a founder's shares at fair market value—or sometimes at the original purchase price—if the founder leaves the company, whether voluntarily or involuntarily. Triggers for repurchase can include termination, death or disability, divorce, or bankruptcy. In cases like divorce or bankruptcy, repurchase rights help prevent shares from being transferred to third parties who may not align with the company's interests. These provisions are often tied to vesting schedules and are designed to maintain control and stability within the company's ownership structure. Other considerations include defining termination criteria, supporting repurchase with key-man insurance, and addressing accelerated vesting in the event of a sale or dismissal without cause.

D. Governance

For clarity and efficiency, startups often adopt a manager-managed versus member-managed structure. A Board of Directors oversees strategic decisions, while designated officers handle day-to-day operations. In equal partnerships (50/50 equity), founders should agree on mechanisms to resolve disputes, such as:

- Mediation or arbitration
- A forced buy/sell arrangement, where one founder offers to buy the other's equity or sell their own at a specified price
- Adding a third, neutral board member to break deadlocks
- Defining actions requiring a supermajority vote (e.g., changing business focus, selling the company, or issuing significant incentive equity)



Other Agreements¹

The Founders should establish an **Operating Agreement** for a limited liability company or a **Stockholders' Agreement** for a corporation. These agreements outline key governance topics for the entity, including:

1

Future Capital Needs: Each Founder should have pre-emptive rights, allowing them the option to participate in future capital raises to maintain their proportional ownership in the company.

- 2 **Capital Calls**: If additional funding is required in the short term (prior to an external funding round), the agreement should specify each Founder's investment obligations and the consequences for failing to meet these commitments.
- **3** Sales of Equity: The agreement should grant the company or the other Founder(s) a right of first refusal on any equity a Founder intends to sell. In some cases, equity sales may be prohibited without board approval.
- Tag-Along/Drag-Along Rights: To prevent conflicts, the agreement should address scenarios where ownership percentages differ. For instance, smaller owners should not be able to block an approved equity sale, and larger owners should not be allowed to sell their shares independently, leaving smaller owners with a new, potentially undesirable partner.

- 5 Allocations and Distributions: Depending on the type of entity, profit and loss allocation decisions may be necessary each year. Additionally, the agreement should address expectations for dividends or distributions, recognizing that early-stage companies typically reinvest profits to support growth.
- **6 Outside Activities**: The agreement should define what activities each Founder is permitted to engage in outside the company, such as participating in similar or competitive businesses, academic roles, or serving on other boards.

Establishing a clear agreement on these points early can help avoid misunderstandings and ensure smoother governance as the company grows.







Valuation

A startup possesses intrinsic value from the outset, based on the strength of its idea, the capabilities of its team, and the time and effort invested in its creation—even before securing any external financial backing. This intrinsic value is known as the **pre-money valuation**, and the estimates for pre-money value are mostly subjective. The **post-money valuation** is the estimated value of a company after it receives new financing, and is calculated by adding the amount of the new investment to the premoney valuation.

Equity Distribution

A startup divides its ownership into shares to make equity distribution more straightforward. At incorporation, the founders decide on a maximum number of **authorized shares**—the upper boundary for what the company can issue. Only a portion of these, called **outstanding** shares, is distributed to shareholders, and ownership percentages are calculated based on this active pool. It is common for startups to authorize 2 to 10 million shares to keep things simple. Initially, each share might have a value of \$0.01 or less, but the subsequent value will depend on what investors are willing to pay. For instance, a \$1 million investment for 100,000 shares implies a \$10 share price. With three million outstanding shares, the company's post-money valuation stands at \$30 million. Over time, as the company grows and raises more funds, its share price may rise, lifting its valuation and making early shares more valuable. The opposite can also happen, where investors are only willing to invest at a lower share price than the previous round, in which case all other shares in the company lose value (referred to as a down round).

Types of Equity

Stock: In a startup, stock is typically issued in different forms, each with distinct rights and privileges. The two major forms of stock are Common Stock and Preferred Stock.

- Common stock is the most basic form of equity and is usually granted to founders, early team members, and employees. It carries voting rights but is generally the last to be paid in the event of liquidation.
 Restricted stock simply refers to Common Stock with vesting conditions—such as remaining with the company for a certain period or hitting performance milestones. If the conditions are not met, the company can repurchase or "forfeit" the unvested shares. As described further below, this vesting structure helps incentivize long-term commitment while aligning the interests of the team with the company's success.
- **Preferred stock**, the other major form of stock, is typically issued to investors and comes with certain advantages, such as priority in receiving dividends or liquidation proceeds before common stockholders. Preferred stock may also include additional rights, such as anti-dilution protections or the ability to convert into common stock.
- Preferred participating stock is a class of equity that gives investors the best of both worlds—priority payouts and additional upside. In a liquidation event, holders of preferred participating stock receive their initial investment back first (often with a multiple or accrued dividends) before common shareholders see any returns. After that, they also get to "participate" in the remaining proceeds alongside common shareholders, typically on a pro-rata basis. This structure can significantly impact how exit proceeds are distributed, so startups and investors alike should carefully negotiate these terms.
Options: Companies often set aside a pool of shares to attract and retain employees and consultants. Instead of issuing shares outright, they typically grant stock options, which provide the right to purchase shares at a predetermined price after a specified period. These options usually vest over time, encouraging long-term commitment. Stock options come in two forms: incentive stock options (ISOs) and non-qualified stock options (NQOs). ISOs offer tax advantages but can only be granted to employees. In contrast, NQOs provide more flexibility, as they can be issued to consultants and advisors as well as employees. While NQOs do not have the same tax benefits as ISOs, they can be granted at any exercise price, and vested options can be exercised at any time. Note that granting stock options comes with various tax and accounting considerations. To ensure compliance, a corporate attorney and accountant should assist in structuring a formal stock option plan, which must be approved by the board of directors.

Vesting

To align incentives and encourage long-term commitment, stock and stock options are usually subject to a vesting schedule, which means they are earned gradually after meeting certain conditions. For example, founder's stock is typically issued to startup founders when the company is formed, often in exchange for intellectual property or early contributions. However, this stock is still subject to vesting, commonly over four years with a one-year cliff—meaning no stock vests until the founder has stayed for one year, after which vesting continues monthly or quarterly. If a founder leaves early, unvested shares may be repurchased by the company at the original purchase price. Founder's stock terms can also include acceleration clauses (vesting speed-up in cases like acquisition) and restrictions on transfer. These structures help protect the company and co-founders while incentivizing continued contributions. Vesting also applies to stock options given to employees. Common vesting schedules can be time-based or milestone-based or a combination of both.

Time-based

- Cliff Vesting: No shares or options vest until a specific period has passed (e.g., one year), after which a predetermined percentage becomes vested.
- Incremental Vesting: Shares or options vest monthly, quarterly, or yearly over a set period (three to five years is typical).

Milestone-based

 Options are granted after a specific milestone is achieved, such as completion of a project, reaching a business goal, or hitting a certain valuation. Milestone-based vesting is less common than time-based vesting.

Establishing a vesting arrangement can lead to unintended tax consequences if not handled properly when the vesting restrictions are placed on the shares. For executives that receive stock grants subject to vesting, an 83(b) election with the IRS might reduce income tax liability over time. This election allows founders to be taxed on the initial low value of the stock rather than its potentially higher value as it vests over time. Individuals should consult with their tax advisor and remember that the 83(b) filing must be made within 30 days after the grant date of the restricted stock.

When a company is sold, vesting often accelerates, which can complicate the balance between the rights of founders and employees. An experienced attorney with expertise in startups and equity ownership norms within your industry can help structure stock plans and navigate these complexities during incorporation.

Company Ownership and Dilution Over Time

Founders Equity. As noted above, when a company is first formed, the founders typically acquire Common Stock at a very low price—often close to zero—since the company is newly established and has minimal or no intrinsic value at that early stage. This stock is often called "Founder's Stock" but is not a distinct form of stock. "Founder's stock" is often—but not always—subject to vesting, which allows the company to repurchase any unvested shares if a founder departs before full vesting.

University Equity. When a startup is spun out of a university, the university typically retains ownership of the IP and licenses it to the new company. The university often receives an equity stake in the startup as part of the overall consideration for licensing the foundational IP. This equity stake is often in the 3 to 12% range (see Table 3 below). This arrangement allows the startup to use the IP while enabling the university to benefit from potential future success without requiring upfront cash. In some cases, universities also negotiate anti-dilution protection, which preserves their ownership percentage until a specific milestone is reached (such as a Series A financing round or a certain valuation threshold). This ensures that the university's early contribution is not immediately diluted by subsequent investment rounds before the company gains traction.

Equity Compensation. In early-stage startups, stock incentive plans (also known as option pools) are a vital tool for attracting, retaining, and motivating key hires, especially when cash compensation is limited. These plans typically set aside a pool of stock—commonly 12–20% of the company's equity—for future grants to employees, advisors, and executives. Most investors expect such a plan to be in place before or at the time of investment, often requiring it to be created or expanded as a condition of funding. Importantly, this equity is generally carved out of the existing ownership, meaning it dilutes the founders' shares. While dilution can be significant, stock incentives are essential for building a strong team capable of growing the company and ultimately generating a successful return on investment.

Outside Capital. Technology startups often require substantial outside capital to fund research, development, and commercialization efforts, especially in the early stages when revenue is minimal or nonexistent. Startup ventures often seek funding from private investors such as angels and VC funds. Investors typically demand a significant ownership stake in the company to compensate for the high-risk nature of these investments. As a result, a founder's individual equity stake will be diluted with each financing round (see Figure 1 below). However, this dilution is part of a strategic trade-off: while the founder owns a smaller percentage of the company over time, the value of their stake can grow significantly as the company scales and attracts more investment-essentially increasing the size of the pie, even if the founder's slice becomes proportionally smaller. In the hypothetical startup example below, the founding CEO has 50% ownership of the company at formation, but the company has almost no monetary value at this early stage (i.e. 50% of zero is still zero); after the Series C financing, the founding CEO's ownership stake is now 12%, but the company now has a post-money valuation of \$100M. This growth in the company's value (e.g., due to positive scientific and/or clinical data, strategic partnership deals, or increased market penetration) would not be possible without the significant injection of capital from the investors. That being said, founders who continue to play key roles in the company can mitigate excessive dilution by receiving stock options as part of their ongoing compensation.

It is important to remember that high quality investors add a lot more value than just money. Many investors have backgrounds as successful executives who launched and managed companies, offering founders valuable advice and guidance. Experienced investors can ensure careful use of funds and keep the company from losing focus, pursuing dead ends, and making avoidable mistakes. Additionally, a VC's investment grants access to their extensive network of industry contacts.

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Figure 1. Example of a hypothetical startup's equity breakdown and valuation changing over time as the startup grows and raises additional financing. Source: "Beware of employee equity, the credit cards of the venture community" by Dror Futter and Natasha Azar, Osage University Partners, Oct. 29, 2019 ⁴.

Role	Range % (pre-options dilution)	
Founding CEO	30% +/- 20%	
Founding Pis	10-40%	
1 Founder	30% +/- 10%	
2 Founders	20% +/- 10%	
3 Founders	15% +/- 5%	
Part-time PI Founder	5%	
Other Founding Execs Pool	10% +/- 10%	
University	3-12%	
After 1st fundraising (post-options dilution)		
Professional CEO (Series A/B)	5-10%	
C-level	2-5%	
Lead Engineer / Scientist	1-2%	
Engineer (5+ years)	0.66-1.25%	
Engineer (Junior)	0.2-0.66%	
Board Member/Advisor	1%	

Table 3. Range of ownership levels pre- and post-options dilution based on analysis of Osage University Partners' portfolio company cap tables. This table is a representation of a range of scenarios and is not meant to add up to 100% due to the exclusion of an option pool. Source: "Solving the Equity Equation" by Nabil Ullah, Osage University Partners, Jun. 21, 2022 ⁵.

Capitalization Tables

A capitalization table, often referred to as a "cap table," is a detailed breakdown of a company's ownership structure. It lists all the securities a company has issued, including common and preferred stock, warrants, and convertible equity, along with the names of the owners and the percentage ownership held by each. For university researchers looking to spin out a company, the cap table is a crucial document that helps outline the equity distribution among founders, investors, and other stakeholders. This transparency is vital for making informed decisions about equity allocation and understanding the potential dilution of shares in future financing rounds.

In the early stages of a spinout, the cap table typically includes the founders' equity, any equity granted to early employees, and shares allocated to the university or research institution, if applicable. As the company grows and seeks investment, the cap table evolves to include shares issued to angel investors, venture capitalists, and other strategic partners. Each investment round will alter the cap table, affecting the ownership percentages and potentially the control of the company. For inventors, maintaining an accurate and up-to-date cap table is essential for managing these changes and ensuring that all parties understand their stake in the company.

Moreover, a well-managed cap table is critical during negotiations with potential investors. It provides a clear picture of the company's current valuation and how new investments will impact existing ownership. This transparency helps build trust with investors and can facilitate smoother negotiations. For university spinouts, where the relationship with the institution and early-stage investors can be complex, a comprehensive cap table ensures that equity distribution aligns with the contributions and expectations of all stakeholders, ultimately supporting the spinout's growth and success.





As the formation of a startup approaches, it is important to seek legal advice before making decisions that could impact the business both in the short-term and long-term. Deciding when to hire an attorney, who to hire, and how to navigate the selection process can feel overwhelming. Startups do not necessarily need to use the same law firm for all their legal needs. However, one piece of advice is to work with law firm(s) that have relevant expertise and experience supporting technology startups within their specific industry space. Remember that not all "businesses" are equal, and technology startups have unique needs compared to more traditional businesses. Below are some considerations that may aid in the selection of a law firm¹.

When to Consult an Attorney

It is important to seek legal advice early, particularly in situations such as:

- Public Disclosures: Before making public presentations, issuing press releases, or speaking to journalists.
- Securities and Fundraising: Before discussing the sale of shares or securities, which must comply with strict regulations.
- External Relationships: Before entering agreements with consultants, collaborators, or brokers to avoid misunderstandings and disputes.

Failing to consult an attorney early in the above scenarios can lead to costly consequences, such as compromised IP ownership, improper patent filings, or unexpected fees.



Key Factors for Selecting a Firm

Firm Size: Small or Large?

- Small Firms: Tend to offer lower fee rates and a more personalized approach, which can be a good fit for early-stage startups with limited budgets.
- Large Firms: While more expensive, these firms are often better suited for startups anticipating significant capital raises, strategic partnerships, IPOs, or mergers and acquisitions due to their deeper legal resources and expertise.

Fee Structure and Payment Options

- What are the fee rates per team member? Are there extra services that will be billed separately? How do they bill (hourly, flat fee, retainer)? What are the accepted forms of payment?
- Some law firms offer flexible payment structures to ease cash-flow constraints, such as:
 - Reduced rates for startups
 - Deferred payment agreements
 - Equity in exchange for services
 - A combination of these options

Experience: How familiar is the firm with technology-based startups, your industry, and the types of transactions you are likely to pursue (e.g., venture capital funding, strategic partnerships, M&A, IPOs)?

Specialization: Does the firm focus on a specific field of law (e.g. IP), or can it provide comprehensive services (i.e. one stop shop)?

Reputation: Do they have a strong track record in the industry? What deals have they successfully advised on?

Team Composition: Who will handle your case? Routine work can be done by junior lawyers at lower rates, while senior partners provide strategic oversight.

Network: Can the firm connect you with investors, advisors, or other valuable contacts?

Industry Engagement: Are they active in your field? Do they attend relevant conferences or publish articles?

Compatibility: Does the attorney or team understand your company's needs and risk tolerance? Is there good personal chemistry between their team and your management?

Testing the Relationship

Before committing to a law firm, consider asking a legal question or two. This is less about obtaining free advice and more about observing how they approach your needs, their responsiveness, and their level of interest.

Remember, lawyers aim to minimize risk, while entrepreneurs often take calculated risks to seize opportunities. Balancing these perspectives is key. While some attorneys may claim to offer added value—such as access to investors—this should be seen as a bonus, not a primary factor in your decision. Ultimately, the attorney's ability to address your specific legal needs should be the priority.

CHAPTER 8 Developing a Business Plan



Investing the time and thought to craft a polished business plan helps a startup think through critical business questions, identify red flags and major risks early on (and either solve them or develop risk mitigation strategies), and prepare for partner and investor meetings.



Key Sections of a Business Plan

Executive Summary: 1-2 pages. The purpose of this section is to capture the interest and curiosity of potential investors and partners with a summary that is both compelling and concise. Provide a brief overview of the:

- Problem or unmet need being addressed
- Size of the market opportunity
- Product or service being developed to address the problem/unmet need and how it is differentiated from competitors
- Investment required
- Key information about the founding team
- Financial projections

It is easiest to prepare the executive summary after the rest of the business plan has been written.

Market Analysis: Summarize the market opportunity, particularly highlighting the market size, major segments, and the current and projected growth rates. Some good questions to address as part of this analysis include:

- What is the problem or unmet need you are addressing with your technology?
- What product/service are you selling?
- What is the size of the market? Estimate total addressable market, serviceable addressable market, target market sizes. Provide annual sales for current companies addressing the market need where available.
- What are the current and projected growth rates for the market?
- Who are the customers?
- How is the problem currently solved or avoided?
- What criteria do customers use to make buying decisions in this market?
- Who are the other stakeholders in the market?
- What are the market drivers or trends and how will they translate into potential opportunities or challenges?

Technology and Value Proposition: This section should articulate how your product/service will address the problem/unmet need identified earlier. Provide enough technical detail about your technology to allow experts to understand and appreciate how it works. Emphasize any unique technical features and explain the tangible benefits/advantages these features will deliver to your customers. Without sufficient information, knowledgeable readers may question your credibility.

Competitive Landscape: Provide an overview of both current offerings in the market as well as technologies/products still in development. Outline the shortcomings of these offerings and how the new technology being developed addresses the gap in the market. It is helpful to prepare a summary table that compares the competitive offerings across a limited set of dimensions that are most meaningful to stakeholders. **Intellectual Property**: Summarize the startup's intellectual property position and the licensing/filing strategy for new IP.

Business Model: Explain how the startup will generate revenue, including revenue streams, pricing strategies, sales channels, and distribution plans. For startups that plan to generate revenue from strategic partnerships, describe how and when partners will pay for the product/service (e.g. upfront payments, milestones, royalties). Also outline the costs associated with development, manufacturing, and selling the product/service.

Operational Plan: Outline the operational processes, resources, and infrastructure needed to develop, manufacture, and deliver the product or service. Summarize key company milestones, including technical development goals, regulatory approvals, and other strategic requirements such as protecting IP and business partnerships.

Exit Strategy: This section of your business plan addresses how investors and other shareholders will be able to see a return on their investment within approximately 3 to 5 years. Common exit strategies include taking the company public through an Initial Public Offering (IPO), a management or company buyout of investor shares, a cash-based acquisition, or a stock-for-stock acquisition by a public company. Discuss the potential timeline for a company sale or IPO and provide a realistic projection of the company's expected valuation at that point. The most compelling information will be a summary of how similar companies have provided returns to their investors (i.e. comparables).

Team: Introduce the founding team, their backgrounds, and highlight what expertise or experience they bring to the company. This section should also include a summary of the Board of Directors as well as the Scientific Advisory Board (SAB) and Industry Advisors where applicable.

Financial Projections: Provide an overview of company financials to demonstrate a strong understanding of business costs, expenses, projected revenue, and a realistic timeline for reaching revenue targets. Also outline funding requirements and the potential return on investment. Make sure to include the key assumptions that drive the financial estimates.

Risks/Anticipated Problems and Mitigation Strategies: Discuss possible risks and challenges, alongside strategies for mitigating or overcoming them. The goal is to be honest about potential hurdles while maintaining a positive outlook. This section does not necessarily need to be included in the business plan provided to investors or partners, but founders should at least consider these scenarios and be ready with responses for investor or partner discussions.

As a final point, it is worth remembering that a business plan is a "living document" and is expected to be continually updated and edited as the technology advances, the market evolves, and the product-market fit is refined. Also keep in mind that proprietary and highly sensitive information should not be included in the business plan since it may be distributed beyond the intended recipients.



CHAPTER 9 Fundraising Fundamentals



One of the most time-consuming and highest priority activities for an early-stage founder(s) is raising capital to further develop their university technology into a commercial product or service. There are two general categories of capital financing: dilutive and non-dilutive. Dilution refers to a decrease in equity ownership for existing shareholders when a company issues new shares. In the case of dilutive financing, the investors receive equity, or shares of ownership in the company, based on the company's valuation and the amount they invest. On the other hand, non-dilutive funding is a way for the company to receive capital without losing ("diluting") company ownership.

The initial valuation of a new company ("pre-money valuation") is subjective and open to negotiation, with entrepreneurs typically aiming high and investors pushing for lower valuations. Over multiple rounds of equity funding, it is common for investors to eventually hold a majority of the company's shares. While founders may initially see this as "losing control", external investment is often essential for the company's growth and progress.



Two commonly used financing tools used by startups in the early stages are SAFE (Simple Agreement for Future Equity) notes and convertible notes, both of which promise the conversion of the investment into equity at a future date. **See below for a more detailed comparison of SAFE and convertible notes.**

Overview of Startup Funding Sources

Self-Funding and Sweat Equity¹: Founders typically contribute some of their own personal funds in the early stages of the business to cover initial expenses like incorporation. Highly committed entrepreneurs often invest significant amounts of their own money, sometimes relying on credit card debt or home equity loans to supplement their funding. Sweat equity refers to unpaid work founders do to create more value in the company.

Friends and Family¹: In addition to self-funding, another source of early money includes friends and family who know you well and may be more likely to support your venture. Friends and family rounds operate similarly to other funding rounds, such as pre-seed or seed, but are generally less formal and rigorous. Founders typically define the amount of capital they aim to raise, the valuation at which they're raising, and the basic terms of the agreement. They then leverage their personal networks to identify potential investors and make their pitch. When structuring a friends and family round, it is essential to determine the amount of capital you need, the equity you're willing to offer, and the terms of the investment. The capital required will depend on the size and stage of your business.

Foundations and Venture Philanthropy¹: Non-profit foundations can be excellent sources of funding if your company's mission and goals align with theirs. Foundations that provide startup funding are more common in areas like healthcare, cleantech, and social impact. Some foundations offer non-dilutive grants, while others have venture philanthropy funds that make equity investments.

Grants¹: Several government agencies offer non-dilutive grant funding, the most notable being the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. Grants can support research and development, prototype creation, and early-stage commercialization efforts.

SBIR and STTR programs are federal grant initiatives that fund research within small businesses with fewer than 500 employees. These programs recognize the critical role of small businesses in driving US innovation and aim to stimulate further advancements in key research areas. Collectively, they provide over \$2 billion in grants annually through federal agency solicitations. The awards are divided into three phases: Phase I (up to \$150,000) supports initial concept exploration; Phase II (up to \$1 million) focuses on developing successful Phase I projects into products; and Phase IIb (up to \$3 million) advances Phase II projects closer to commercialization.

While SBIR/STTR awards are granted directly to small businesses, a portion of the funds can be subcontracted to university labs (up to 33% for SBIR and 60% for STTR during Phase I), offering an efficient way to manage proof-of-concept projects without incurring high infrastructure costs. These grants are especially appealing to academic startups for two reasons: they align with the grant-writing skills of researchers, and they provide funding without requiring equity (i.e., founders don't have to give up ownership in the company). However, a major drawback is the potential delay between Phase I and Phase II funding, making it challenging to sustain research teams and meet payroll during the interim.

Some researchers are tempted to use SBIR/STTR funding to extend their academic research rather than to build a company to develop products/services. Applications are reviewed by expert panels for both technical and commercial viability, and proposals that are overly academic are often rejected. When used as intended, these programs are excellent for funding early-stage research in new companies, with Phase II awards offering substantial support. However, relying solely on SBIR/STTR grants to build an entire product line is unlikely to provide adequate resources. Furthermore, these types of grants are typically very slow and require complicated accounting activities to ensure compliance with regulatory requirements of the funding organization. Grant reporting can also divert the startup's attention away from go-to-market activities and commercial deployment.

Angel Investors¹: Angel investors are high-net-worth individuals who invest their own money in startups. Some angel investors offer not only capital but also mentorship and industry connections, especially if they are experienced entrepreneurs themselves. In some cases, angel investors form groups to improve quality and deal flow as well as more thorough screening. While a single angel typically invests between \$25K to \$100K, a group that pools investments from multiple angels can reach \$1 million or more in funds. Angel investors typically invest in higher risk, earlier stage ventures compared to venture capitalists. See below for discussion of SAFE versus Convertible Notes.



Venture Capital¹: Venture capitalists (VCs) are professional investors and fund managers who invest capital pooled from institutional investors and high net worth individuals seeking higher returns than those offered by the stock market. VC firms invest in high-growth potential startups in exchange for equity. VCs typically invest in companies with the potential to achieve a liquidity event—such as an acquisition or an initial public offering (IPO)—within five to seven years. To justify the risks involved, VCs seek returns of at least five to ten times their initial investment. Thousands of venture firms exist, many specializing in specific industries. A venture firm's reputation is heavily influenced by its track record; firms with below-average performance often lose investors to competitors.

VCs can provide substantial funding and strategic guidance but often demand significant ownership stakes. They also typically require substantial reporting and play an active role in management of the company. While VC oversight may feel burdensome, it can help ensure responsible use of capital and keep the company focused, avoiding costly missteps and unproductive paths. VCs also provide critical industry connections that increase the startup's likelihood of success.

Choosing the right investors is just as crucial as selecting the right CEO. Early investors influence a company's direction by offering support, strategic insight, and credibility. This is especially true at the seed stage, where investor quality can greatly affect future fundraising efforts. While entrepreneurs under pressure to secure capital may be tempted to accept funds from inexperienced investors, doing so can be risky. These investors often bring unrealistic expectations, limited industry connections, and minimal credibility with later-stage funders—factors that can ultimately hinder the startup's long-term growth and success. **Venture Studios**: Venture studios are organizations that build and launch startups by providing hands-on support, resources, and funding. Unlike traditional accelerators or incubators, which primarily mentor existing startups, venture studios originate and develop ideas in-house, recruit founding teams, and provide operational, technical, financial, and strategic support. They function as co-founders, actively guiding startups through product development, market validation, and scaling. By leveraging shared infrastructure and expertise, venture studios increase the likelihood of success and accelerate the growth of early-stage companies.

Industry Partnerships¹: Partnering with established companies can offer startups valuable support in the form of funding, technical expertise, and access to markets. Industry collaborators may also pursue strategic investments or explore future acquisition opportunities. These partnerships often include incentives—such as product discounts, early access, or limited usage rights—to ensure the corporate partner benefits commercially from the innovation. A startup might receive cash support or joint development assistance in exchange for these benefits. Such collaborations provide a source of non-dilutive capital and can boost the company's valuation by validating the technology and reducing perceived risk. However, these agreements are typically tied to development milestones and should be carefully structured to avoid diverting the startup's focus or imposing terms that could complicate future fundraising or acquisition prospects.

Crowdfunding: Crowdfunding platforms allow startups to raise small amounts of money from many people, typically via online platforms. Crowdfunding can validate market demand and build a community of early adopters. However, crowdfunding also requires significant on-going marketing and communication efforts, which can be a distraction. The idea also ends up being open to the public, so protection of IP is important. Equity crowdfunding can also complicate future fundraising from investors.

How do SAFE notes and convertible notes differ?

SAFE (Simple Agreement for Future Equity) notes and convertible notes are both instruments used by startups to raise early-stage funding, with the promise of converting the investment into equity at a later date. SAFE notes offer a simpler, equity-focused option without the complexities of debt, while convertible notes provide a blend of debt and equity characteristics. Table 4 below highlights some key differences:

	SAFE Note	Convertible Note
Use Case and Popularity	Developed by Y Combinator in 2013, SAFE notes have become popular due to their simplicity and ease of use. They are particularly favored by early-stage startups and investors looking for a hassle-free way to secure future equity.	Convertible notes have been used longer and are well understood in the venture capital community. They are often preferred in situations where investors seek the security of a debt instrument while still having the opportunity to convert to equity.
Structure and Complexity	A SAFE note is simpler and more straightforward. It is not a debt instrument, meaning it does not accrue interest and has no maturity date. It converts to equity upon a triggering event, such as a future equity financing round.	A convertible note is a debt instrument. It accrues interest and has a maturity date, at which point it must either convert to equity or be repaid. It combines aspects of both debt and equity financing.
Interest and Maturity	SAFE notes do not accrue interest and have no repayment obligation or maturity date. Investors are essentially betting on future equity without expecting periodic returns or repayment.	Convertible notes accrue interest, typically between 2-8% per annum, and have a specified maturity date, usually 12-24 months. If the note does not convert to equity by the maturity date, it must be repaid, potentially with the accrued interest.
Conversion Terms	Conversion terms are predefined and typically include a valuation cap and/or a discount to the next financing round. The SAFE converts into preferred stock at the price set by the next qualifying equity financing, subject to these terms.	Convertible notes also often include a valuation cap and a discount rate. Upon conversion, the note plus accrued interest converts to equity at a discount to the next financing round's price or at a price based on the valuation cap, whichever benefits the investor more.
Investor Rights	Generally, SAFE note holders do not have creditor rights since the investment is not considered debt. This means they may have fewer protections if the company fails.	As debt holders, convertible note investors have certain creditor rights, which may include the ability to demand repayment or take legal action if the company defaults or goes bankrupt before conversion.

Table 4. Key differences between SAFE notes and convertible notes.

Common Terms and Conditions in Angel and VC Fundraising

- Financial Rights. Startups must carefully negotiate these terms to balance investor protection with the company's ability to raise future capital. **Pre-Money Valuation** Pre-money valuation refers to the value of a startup immediately before new investment is added, and it plays a central role in determining how much ownership is exchanged for capital. Founders typically want a higher pre-money valuation, as it means they give up less equity for the same amount of funding, helping them maintain more control and ownership of the company. On the other hand, investors tend to favor a lower pre-money valuation, as it allows them to acquire a larger stake and reduces their investment risk. The negotiation over pre-money valuation reflects a balancing act between the founder's desire to preserve equity and the investor's need for meaningful ownership and upside potential.
- Fully-Diluted Basis. Valuation, including the per-share price, is typically calculated on a fully diluted basis. When a startup is valued on a "fully-diluted basis," it means the valuation takes into account all outstanding shares plus all potential shares that could be issued in the future. This includes common stock, preferred stock, and all convertible securities such as options, warrants, and any shares reserved in the equity incentive pool—even if those shares haven't been granted yet. Valuing a company on a fully-diluted basis gives a more comprehensive picture of ownership by showing what each stakeholder's percentage would be if all possible shares were issued. Investors often use this method to calculate their post-investment ownership and to understand how much of the company they will ultimately control.

• Liquidation Preference. Liquidation preference refers to the order in which investors are paid in the event of a company's liquidation, such as in a sale, merger, or bankruptcy. It ensures that investors, particularly those with preferred stock, receive their investment back before common stockholders (such as the founders) receive any proceeds. This preference is usually defined by a multiple, such as 1x or 2x, meaning the investor is entitled to receive an amount equal to their initial investment (1x) or a multiple of it (e.g., 2x) before any distributions are made to common shareholders. For example, if an investor has a 1x liquidation preference and invested \$1 million, they would get \$1 million back before any remaining proceeds are distributed to the founders or other shareholders. While this is important for protecting investors' downside risk, it can reduce the amount of proceeds available to the founders if the company is sold for a lower amount. In a high-value exit, however, liquidation preference becomes less significant as there is more value to distribute to all stakeholders.



• Participating vs. Non-Participating Preferred Stock

- Participating Preferred Stock: Participating preferred stock gives investors the right to receive their liquidation preference (usually their investment amount or a multiple of it) and then also participate in any remaining proceeds alongside common stockholders. This means that after the initial payout to preferred shareholders, they can share in the remaining value of the company as if they were common shareholders. The impact of participating preferred stock is that it can significantly reduce the amount of proceeds available to common shareholders, particularly founders, in a liquidity event, as investors benefit from both their liquidation preference and participation in the upside.
- Non-Participating Preferred Stock: Non-Participating Preferred only entitles investors to either their liquidation preference (typically the amount they invested or a multiple) or their share as common holders—whichever is greater. In other words, after receiving their initial payout, non-participating preferred shareholders do not participate in the upside alongside common shareholders. This structure is less favorable to investors compared to participating preferred stock, but it allows common shareholders, such as founders, to retain a larger portion of any remaining value.

- Dividends. A dividend is a payout of a company's profits or surplus earnings to its shareholders, usually in cash or additional stock, based on the number of shares they hold. Dividends must be approved by the board of directors, and most states restrict companies from issuing dividends unless they meet specific financial thresholds to ensure they can still meet obligations to creditors afterward. Given that early-stage startups are limited on cash, declaring dividends tends to be less common in venture-backed startups. There are two main types of dividend provisions: dividends may be cumulative (accrue over time and must be paid out upon exit) or non-cumulative (paid only when declared). A non-cumulative dividend provision ensures that common shareholders do not receive dividends unless investors also receive their entitled return. Cumulative dividend provisions state that preferred stock is entitled to accumulate a fixed annual dividend, regardless of whether the company formally declares dividends. If and when a dividend is declared, preferred shareholders are entitled to receive both the accrued dividends and their share of the declared distribution. Keep in mind that venture investors typically do not expect regular interest payments from their portfolio companies, as they prefer the capital to be reinvested into growth and scaling efforts.
- **Pre-Emptive Rights.** Pre-emptive rights give current shareholders the chance to buy additional shares before they are offered to outside investors. This allows shareholders to preserve their ownership percentage and protect against dilution in future financing rounds.
- Anti-Dilution Provisions. Anti-dilution provisions are designed to protect investors from a decrease in the value or percentage of their ownership when additional shares are issued. This dilution can occur during new equity financing rounds or when stock options and other convertible securities are exercised, increasing the total number of outstanding shares and reducing each existing shareholder's proportional stake. Common types of anti-dilution provisions include full ratchet and weighted average formulas. Full ratchet anti-dilution offers investors strong protection against dilution in "down rounds",

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where the startup raises money at a lower valuation than the previous round. The full ratchet provision resets the conversion price to the new, lower share price, preserving the investor's economic ownership despite the drop in valuation. Unlike full ratchet protection, which resets the conversion price entirely to the new lower price, weighted average anti-dilution adjusts the conversion price using a formula that accounts for both the previous and new share prices and the number of new shares issued. This approach provides a more moderate form of protection, reducing the impact of dilution for investors without completely shielding them from the effects of a down round.

• Governance Rights. Governance rights in a term sheet outline the ways in which investors can influence or participate in a startup's decision-making processes. These provisions often include the right to appoint one or more members to the company's Board of Directors, ensuring that investors have a voice in key decisions, such as executive hiring, budgets, major transactions, and strategic initiatives. Investors may also be granted observer rights, allowing them to attend board meetings without formal voting power. Additional governance-related terms can include protective provisions—clauses that require investor approval for certain major decisions, such as issuing new stock, taking on significant debt, entering a strategic partnership or licensing agreement, or engaging in a merger, acquisition, or sale of the company. These rights help safeguard investors' interests by giving them oversight and control over decisions that could affect their investment.

- Exit Rights. VC firms must eventually convert their equity in portfolio companies into cash or marketable securities in order to return capital to their own investors. Since most VC funds have a 10-year life span and deploy the bulk of their capital within the first four years, they typically seek liquidity events—such as acquisitions or IPOs—within five to seven years of investment. This timing ensures that later-stage investments can be liquidated before the fund closes. Exit rights outline how and when investors can realize a return on their investment, and under what conditions they can participate in or influence a company's exit strategy.
 - **Liquidation preference** ensures investors are paid back—often with a specified multiple—before common shareholders in the event of a liquidation, sale, or merger.
 - **Registration rights** give investors the ability to force or participate in an initial public offering (IPO), ensuring their shares can be publicly sold.
 - **Redemption rights** allow investors, after a defined period (typically five to seven years), to require the company to repurchase their shares, providing a potential exit if no IPO or acquisition occurs.
 - **Tag-along rights** protect minor shareholders by allowing them to join a founder or major shareholder's sale of equity to a third party on the same terms.
 - Drag-along rights enable majority shareholders to compel minor shareholders to join in the sale of the company, ensuring a clean transaction when a qualified buyer is found.

The financial, governance, and exit terms negotiated by investors often change over the lifetime of the startup. If a company undergoes several rounds of funding before reaching an exit, each round—typically involving both new and existing investors—may bring revised deal terms. These adjustments reflect the company's evolving stage, performance, and risk profile, ensuring that investment structures remain aligned with the startup's current valuation and future prospects.

CHAPTER 10 Exiting

Along the journey of building successful companies, entrepreneurs raise rounds of venture funding, assemble teams, and develop innovative products or services capable of rapid growth. Success for a startup venture is typically defined as reaching a liquidity event—an exit—that delivers financial returns to founders, employees, and investors. The two primary exit paths are selling the company or going public. Understanding the different types of exits is essential for academic entrepreneurs planning their long-term strategy.

Mergers and Acquisitions (M&A)

M&A events occur when another company purchases the startup (acquisition) or when two companies combine (merger). Acquisitions can take place at various stages of a company's growth, and often provide a faster, more predictable exit than an IPO, allowing founders and investors to cash out while offering the acquirer strategic or financial value. Strategic acquisitions are typically motivated by business objectives such as entering new markets, expanding product offerings, improving efficiency, or acquiring valuable intellectual property. Financial acquisitions aim to maximize returns by streamlining operations, cutting costs, or leveraging synergies. In the case of a merger, the two companies that join often seek to combine their resources, expand market reach, or leverage complementary technologies. Although mergers can create synergies that fuel growth, cultural and operational integration challenges can arise.

Initial Public Offering (IPO)

An IPO occurs when a private company offers its shares to the public for the first time, trading on a stock exchange. This exit strategy can provide significant capital, increase market visibility, and create liquidity for shareholders. However, IPOs are complex and expensive, requiring substantial preparation, including meeting regulatory requirements, financial disclosures, and market scrutiny. Companies must comply with ongoing reporting obligations, and market volatility can impact stock price and company valuation. While an IPO can offer the highest financial rewards, it also brings increased responsibility and pressure to deliver consistent financial performance.

Secondary Sales

Secondary sales are a less formal type of liquidity event, where existing shareholders, such as early employees or investors, sell their shares to other private investors without the company going public or being acquired. This provides partial liquidity while the company remains private, though it requires careful negotiation to avoid valuation conflicts.

Key Considerations for Exit Strategies

- **Timing**: The optimal time for an exit depends on market conditions, company growth stage, and investor expectations. Exiting too early could leave value on the table, while waiting too long might increase risks of competition or market downturns.
- Valuation: For companies with revenue, achieving a favorable valuation requires demonstrating strong sales growth, market traction, and a scalable business model. Transparent financials and a compelling vision are critical. Pre-revenue startups are typically valued based on qualitative factors rather than financial performance. These may include the strength of the founding team, the size and growth potential of the target market, the uniqueness of the product or technology, the competitive landscape, intellectual property, and early traction or user interest. Investors may also use benchmarks from

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comparable startups or valuation methods (qualitative, forwardlooking, or hybrid) to estimate value in the absence of revenue.

- **Stakeholder Alignment:** Founders, investors, and employees may have different timelines and financial goals. Clear communication and legal agreements help align expectations.
- **Impact on Innovation and Culture**: An exit can significantly change a company's culture and innovation trajectory. Thoughtful planning can help preserve the company's mission and retain key talent post-exit.

A successful exit strategy is planned well in advance of the actual liquidity event and is grounded in a clear vision of the company's long-term objectives, market position, and stakeholder priorities. Founders should engage legal and financial advisors early on to explore exit options and understand the implications of each path. In the end, a well-executed exit delivers financial returns while also serving as a testament to the innovation, dedication, and collective effort that drove the venture's success.



CHAPTER 11



Mistakes to Avoid and Key Startup Terms to Know

Common Startup Pitfalls to Avoid as an Academic Entrepreneur ²:

- Underestimating the cost and time required to start a business. Be prepared for significantly higher costs and longer timelines than you initially expect.
- Believing you can do everything on your own. It is crucial to bring in the right professionals to help run the company and develop the technology as early as possible. Running a business entirely on your own is unrealistic, especially for a professor with extensive research, teaching, and administrative responsibilities outside the company.
- Believing that your company will be able to succeed quickly without investors. Companies which do not accept investment also do not benefit from the growth that can arise from the insight and connections investors bring to the table. These insights and connections can lead to growth which far outweighs the initial value of equity allocated to the investors. Additionally, if you find that you have difficulty obtaining investment funding from reputable sources, you may want to reconsider whether modifications should be made to your startup plan.
- Allowing others to burden you with more work than you can handle. Balancing academic and startup responsibilities requires setting clear priorities and learning how to say "No" to some requests.
- Failure to delegate. It is impossible to master every aspect of a business. Instead, focus on building a strong team of business partners who bring experience and knowledge, especially in areas outside the core functions of the business.

- Prematurely assuming ownership of intellectual property. In the early stage of a new venture, the intellectual property (IP) is the main source of value. Do not assume you will be able to license any IP until you have signed a license agreement.
- Assuming that intellectual property can be licensed equally well at any time. In general, the cost of the license will go up the longer you wait because the licensor is incurring patent expenses associated with protecting the intellectual property. Your ability to negotiate the license terms is stronger when the costs are still low and the technology still requires a lot of development.
- Reluctance to share equity with others. Building successful business partnerships and equity relationships is vital to your company's success. Remember, you can't achieve success alone, and 100% of nothing is still nothing.
- Rushing into choosing co-founders and allocating equity. In the eagerness to start your company, it may be tempting to make quick decisions about co-founders and equity distribution. However, it's important to carefully consider the long-term implications of these choices. Remember, once you assign part of your company to someone, you're committing to a long-term partnership. It can be tempting to allocate equal shares to all founders; however, doing so can make every subsequent decision extremely difficult. In general, the person who is committing the most to the startup (in time, capital, and opportunity costs) should receive a correspondingly larger share of the company. The incentive for the majority founder to see the company succeed is far more effective in guiding decision making than even very persuasive arguments by less committed founders.

- **Confusing ownership with inventorship.** While it may seem logical to consider all co-inventors as co-founders and co-owners of the company, this is not a requirement. Select co-owners and allocate equity based on their expected contributions to the business, not just their role in the invention.
- Failing to require vesting of stock or options. To ensure key contributors remain with the company over time, vesting schedules are commonly applied to stock or stock options. With restricted stock, unvested shares are usually subject to repurchase by the company—often at the original purchase price—if the individual leaves before the vesting period (typically 2 to 4 years) is complete. For stock options, vesting may be tied to time or performance milestones, and unvested or unexercised options are forfeited if the individual departs. Although founders may prefer fully vested stock from the outset, imposing vesting restrictions helps protect the company in situations where a founder exits early due to loss of interest, disability, or death.
- **Giving away too much equity to early advisors and consultants.** Startups should avoid awarding too much stock to consultants and advisors early on before they have made meaningful contributions to the business. Stock awards should be modest and ideally tied to performance (e.g. achieving pre-defined milestones).
- Trying to pursue too many ideas simultaneously. While your technology may have multiple exciting applications, focusing on one idea initially can increase the chances of success. Other ideas and applications can be explored later.
- Entering into verbal partnership agreements. Be cautious and seek legal advice before entering partnerships with colleagues, new business connections, friends, or family. While you may agree on terms now, unforeseen events can lead to serious issues. Ensure you have a written partnership agreement that clearly defines each partner's responsibilities and outlines the process for handling potential disputes.

- Failure to read contracts. This may seem obvious, but do not sign agreements without reading or fully understanding the implications. If you don't have the time to review an agreement, it's best to have someone else from your team or outside legal counsel assist.
- Signing contracts before securing business funding. Avoid committing to any contracts until you have confirmed sufficient funding to start the business. You will be liable for contract obligations, regardless of whether the business launches. In some cases, it may be possible to make agreements contingent on obtaining business financing.
- Failure to keep good legal and accounting records. Most technology-based startups pursue external funding from investors, government programs, or corporate partners. Many of these startups also intend to exit at some point. These goals become significantly harder to achieve if the company does not maintain thorough documentation of its financial transactions and clearly defined agreements outlining the rights and responsibilities of its owners, employees, and partners. In serious cases, failure to keep proper records can even compromise the liability protection typically provided by a corporation or limited liability company structure.

These considerations are just a starting point; they do not cover all the startup requirements you will need to manage or the common pitfalls you might face as an entrepreneur. Before committing to launching a startup, it is worthwhile to seek guidance from outside professionals such as an accountant, attorney, financial advisor, and most importantly an experienced entrepreneur. Also make sure to refer to Chapter 12 for helpful resources.

Key Startup Terms to Know

- **Angel Investor** Individual that provides financial support to a startup at a very early stage, usually for share of ownership in the startup
- Authorized Shares Total number of shares your startup is legally permitted to issue, as specified in its articles of incorporation; this number sets the upper limit for your company's potential stock issuance
- **Bootstrapping** Using your own money to get a startup off the ground
- Break-Even Point Point at which total cost and total revenue are equal, i.e. there is no loss or gain
- Burn Rate Measurement (\$/month) of how quickly a business uses up its cash on hand
- **Business Model** Summarizes how a business will generate revenue and achieve profitability
- Business Plan Detailed document outlining a company's goals, strategies, target market, financial projections, and operational plans, serving as a roadmap for the business's development and a tool for securing investment and support
- **Capitalization Table (Cap table)** Table that tracks the equity ownership of a company's shareholders
- **Churn Rate** Frequency at which customers discontinue business with a company

- **Convertible Note** A short-term debt instrument that can be converted into equity in the future; frequently used in the seed round of financing
- **Equity** Refers to ownership in the company, typically represented as shares. Founders, employees, investors, and board members receive equity as compensation or in exchange for funding, giving them a claim to a portion of the company's value and potential future profits or exit proceeds.
- Exit Event in which an investor or founder sells their stake in the company, either through a merger, acquisition, or an initial public offering (IPO)
- **Go-to-Market Strategy** Plan for how a company will price products/services, acquire target customers, promote sales, and grow the business
- **Key Performance Indicator (KPI)** Measurement that can help track a startup's progress and highlight areas for improvement
- **Minimum Viable Product (MVP)** Basic but functional version of the product/service that can be tested out by customers. Allows startup to receive customer input as early as possible to enable iteration and enhancement of the product/service
- Non-Dilutive Funding Type of financing that allows a business owner to receive capital without giving up ownership or equity in the business; common examples include crowdfunding, grants, small business loans, and venture debt
- **Outstanding Shares** Total number of a company's shares that have been issued and are currently held by all shareholders, including institutional investors and individuals. This number is not fixed and can vary significantly over time due new issuances or share buybacks.

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- Pre-Money Valuation The estimated value of a company before it receives any external financing; this valuation is subjective and can be based on a company's financials, growth prospects, and other factors; this value helps determine the price of a company's shares
- **Post-Money Valuation** The estimated value of a company after it receives new financing; it is calculated by adding the amount of new investment to the pre-money valuation
- **Product-Market Fit** Degree to which a product/service satisfies a strong market demand
- **Proof-of-Concept (POC)** Part of the discovery phase that entails market and user research to determine whether a product/service is worth creating
- **Return on Investment (ROI)** Refers to the financial gain or loss investors experience relative to the amount of money they invested. It measures how effectively a startup turns investment capital into profit, often realized through an acquisition, IPO, or other liquidity event.
- **Runway** How long a company can operate before running out of funds
- Simple Agreement for Future Equity (SAFE Note) Form of financing common in the seed round that gives investors the right to buy equity in a startup at a future date when the startup raises another round of financing
- Serviceable Addressable Market (SAM) Also known as the serviceable available market, this is the portion of TAM that is reachable and can potentially be served by a company's products or services
- **Target Market** Also known as the serviceable obtainable market (SOM) or share of market, this is the percentage of SAM which is realistically reached
- Total Addressable Market (TAM) Also known as the total available market, this is the total market demand for a product or service calculated in annual revenue or unit sales if 100% of the available market is achieved (this is a theoretical value)
- Value Proposition Unique selling points of a product/service that allow it to address unmet market needs or pain points
- Venture Capital (VC) Type of financing provided to early-stage, highpotential startups in exchange for equity. VC firms invest in companies they believe can scale rapidly, often taking on higher risk in hopes of substantial returns through events like acquisitions or IPOs. VC investors also sit on the startup's board of directors and play an important role in the company's decision-making process. Some VCs also offer operational support and sourcing key talent. VCs can also provide access to a deep network of subject matter experts, industry partners, and additional investors.



CHAPTER 12

Resources for University Innovators

Internal Funding Sources

There are a variety of <u>internal funding opportunities</u> offered at the University of Rochester. A comprehensive list of internal funding programs of AS&E, the Office of the Provost, URMC, and other sources is available on the AS&E Intranet: <u>University of Rochester Internal Funding</u> <u>Compendium</u>.

Other University Resources

- <u>UR Center for Health + Technology (CHeT)</u> provides expertise in clinical trials, clinical materials, outcome measures, data modeling, and predictive analysis
- <u>UR Clinical & Translational Science Institute (CTSI)</u> helps translational scientists and researchers and their teams produce results faster through robust services and support, funding, education programs, and collaborative opportunities
- <u>UR Office of Research + Project Administration (ORPA)</u> office that serves and guides UR and URMC community on all aspects of sponsored programs administration
- <u>UR Health Lab</u> facilitates collaboration between UR and external companies to provide early access to healthcare technologies for testing and validation

 <u>Ain Center for Entrepreneurship and Innovation</u> – empowers students to uncover opportunities, push boundaries, and turn visionary ideas into reality. With initiatives like the Ain Foundry Program, Pitch Competitions, Business Plan Competitions, and access to Entrepreneurs-in-Residence, students gain the resources and support needed to transform their ambition into innovation.

Accelerators and Startup Competitions

- <u>NSF I-Corps</u> NSF I-Corps Regional Courses are for university-based STEM researchers and early-stage startup founders who are interested in exploring the market potential of their work and learning entrepreneurial skills. Participants learn to apply "customer discovery" methodology to evaluate the potential for translating their technology innovation from the lab into a successful product and/or service. UR is part of the Interior Northeast I-Corps Hub.
- <u>NextCorps</u> NextCorps is a nationally recognized hub for innovation and economic development. NextCorps is a UR affiliate non-profit organization based in downtown Rochester that is dedicated to helping innovative technology companies launch and grow through its facility, incubator, and accelerator programs:
 - Incubation- resources and support for early-stage entrepreneurs
 - Embark- software education
 - <u>Luminate</u>- accelerator for optics-, photonics-, and imaging-enabled technology
 - <u>Venture for ClimateTech</u> accelerator for climate tech innovators
 - <u>Scale for ClimateTech</u> manufacturing support for climate tech
 - <u>Manufacturing Accelerator</u> accelerator for hardware startups

- <u>New York State Accelerators and Competitions</u> Empire State Development connects scalable companies with New York State's top universities, talent, and manufacturing facilities through its support of several cutting-edge accelerator programs and funding competitions. These accelerators and competitions help companies solve pressing industry challenges, while also fueling the state's innovation ecosystem. The result: a sustained and robust pipeline of companies accessing New York State's innovation assets, supporting key industry sectors, and attracting top talent.
- NYSTAR Centers for Advanced Technology (CATs) NYSTAR funds 15 CATs to encourage greater collaboration between private industry and universities in the development and application of new technologies. The CAT program, created in 1983, facilitates a continuing program of basic and applied research, development and technology transfer in multiple technological areas, in collaboration with and through the support of private industry. CATs play a critical role in spurring technology-based applied research and economic development in the state; promoting national and international research collaboration and innovation; and leveraging New York's research expertise and funding with investments from the federal government, foundations, businesses, venture capital firms and other entities. NYSTAR periodically identifies technology fields of strategic importance to New York's economic competitiveness and holds competitions to award 10year CAT designations to New York universities, university-affiliated research institutes, or consortia of such institutions.
- <u>NYBPC</u> The New York Business Plan Competition (NYBPC) is a venture creation and innovation competition that was established in 2010 to encourage innovation and entrepreneurship throughout New York's colleges and universities.

- <u>RIT Venture Creations Incubator</u> RIT Venture Creations is a technology business incubator that provides a range of services to seed/mid-seed stage startups to help them advance their businesses. Applicants must have one or more founding partners that are an RIT student, faculty member, staff member, or alumnus, and/or be based upon a technology in one of RIT's core technology areas including imaging science, computational science, gaming, engineering, and others.
- <u>Central New York Biotech Accelerator</u> Syracuse-based lab facility and program serving for-profit pharmaceutical, biologic, and medical device startup companies who are actively commercializing a biotech-related product or service. CNYBAC is operated by SUNY Upstate Medical University, but clients don't have to be SUNY employees to license space.
- <u>Market Creators' Lab</u> The Market Creators' Lab is an annual membership program that brings together a community of market creators to understand and navigate the Market Creator's Dilemma. Over 12 months, you'll hear from experts, connect with peers, and have a front row seat as two market creating ventures are developed. The 2025 Market Creators' Lab is hosted by Cornell University.
- Merck Digital Sciences Studio 10-month hands-on accelerator program providing mentorship, coaching, training, support, community, and investment to enable the next generation of innovative digital biopharma technologies for drug discovery and development.
- <u>IndieBio NY</u> Startup investor and accelerator program focused on biotech; partnered with SOSV deep tech fund; also offers lab and office facilities in NYC

- <u>LifeX Accelerator</u> 3-month immersive program for early-stage ventures commercializing technology in digital health, medical devices, or therapeutics. LifeX is a subsidiary of University of Pittsburgh. The program is mostly virtual but requires two on-site meetings in Pittsburgh.
- <u>MassBioDrive</u> Accelerator program designed to advance breakthrough science while providing opportunities to innovators from all parts of the life sciences ecosystem. Twice a year, MassBioDrive supports a small group of groundbreaking scientists by connecting them with business fundamental curriculum, mentorship, industry connections, and equity-free prizes – without taking anything in return. The eight-week hybrid program culminates in a Demo Day and is open to applicants outside of Massachusetts.
- <u>SCbioDrive</u> Offered in partnership with MassBio, the SCbio accelerator program is designed to advance emerging life sciences companies through expert business curricula, industry guidance and mentorship. The eight-week hybrid program consists of seven weeks of virtual instruction followed by one week in person in Charleston, SC. Company founders will complete industry-specific curriculum modules, led by experts from leading companies. Each cohort will conclude with an in-person Demo Day.
- <u>MedTech Innovator</u> The world's largest accelerator for medical device, digital health, and diagnostic companies. MedTech Innovator's mission is to improve the lives of patients by accelerating the growth of companies that are transforming the healthcare system.
- <u>Y Combinator</u> High profile, three-month accelerator program open to startups at varying stages of development. YC invests \$500,000 into each company on standard terms. The program culminates in a Demo Day presentation.

External Funding Sources

- Non-dilutive Opportunities
 - NSF Small Business Program
 - DOD Office of Small Business Programs
 - NIH Small Business Program
 - DOE Office of Small and Disadvantaged Business Utilization
 - CDC Small Business
 - SBIR/STTR Basics
 - Lab2Market | SBIR
 - <u>Do's & Don'ts of the SBIR Grant Application Process</u>- University Lab Partners
 - <u>NIH Entrepreneurship Bootcamp</u>- [DU1] targets teams who have not yet been awarded an SBIR or STTR for their technical innovation and who may not yet have formed a company
 - InteliSpark- hands-on business development consulting firm specializing in securing non-dilutive SBIR & STTR funding for startups
 - SPIN database of funding opportunities; partnered with UR
 - <u>Turbo SBIR</u>- database of funding opportunities, also offers grant writing support and other resources

 <u>ScienceDocs</u> - comprehensive research support services including SBIR grant consulting

Regional Investors

- <u>Rochester Angel Network</u> The Rochester Angel Network is a private group of accredited investors in the Greater Rochester, NY Region with an interest in investing in seed and early stage startup companies. The network provides an accessible and efficient forum by which entrepreneurs can find potential investors, and investors can find deals of interest.
- <u>Excell Partners</u> Venture capital fund that invests in Seed and Early-Stage high-tech startups in New York State focused on Upstate NY. Excell is an affiliate of the University of Rochester. Excell has the dual mission of generating returns that rank in the top-quartile of its benchmarks and supporting regional economic development by providing entrepreneurs with hands-on support as well as investment capital. Excell's portfolio includes investments in Medical Devices, Materials, Energy, Biotech, Agtech, Imaging, and IT/Software ventures across New York State.
- <u>Upstate Biotech Ventures -</u> Venture capital fund that invests in life science and biotech startups and small businesses affiliated with Upstate Medical University; fund is managed by Excell Partners
- <u>Western NY Venture Association</u> Only not-for-profit organization dedicated to providing a business opportunity and investment forum to the Niagara region. The association holds a series of networking meetings throughout the year to facilitate the exchange of information between investors and entrepreneurs.

- <u>Cayuga Venture Fund</u> Cayuga Ventures is interested in upstate New York startups at various stages across a wide range of industries.
- <u>Launch NY</u> Launch NY is a nonprofit venture development organization in Upstate New York providing pro bono mentoring and access to risk capital for high-growth startups.
- <u>Simon Venture Fund</u> Early-stage seed fund run by MBA and Master's students at the Simon School. The SSVF is an evergreen fund made possible through the support of alumni donations. The Fund is guided by an alumni advisory board that consists of VCs, successful entrepreneurs, and accomplished professionals in finance, law and other disciplines.
- <u>RIT Venture Fund</u> RIT Venture Fund provides investment capital to early-stage companies that are focused on the creation of intellectual property in fields that complement RIT's core academic competencies and that have a strong connection to the RIT community.
- <u>Buffalo Innovation Seed Fund</u> Buffalo Innovation Seed Fund (BISF) is an early-stage, evergreen venture capital fund with \$10M in assets under management dedicated to growing the next generation of outstanding, diverse businesses in Buffalo and Western New York. Startups do not have to be affiliated with UB to be considered.
- <u>Armory Square Ventures</u> Armory Square Ventures is a seed and early stage venture capital firm based in Upstate NY and NYC.
- <u>StartFast Ventures</u> Seed and Series A firm focused on B2B SaaS startups; optimized to address challenges faced by startups outside major VC hubs.

Startup Facilities

- <u>NextCorps</u> coworking space and maker space for tech startups in downtown Rochester; affiliated with UR
- <u>Oyagen</u> biotech company based in Henrietta. They offer BSL2 wet lab space for rent. The space is move-in ready and equipped with benches as well as commonly use and specialty lab equipment (see more details <u>here</u>). A conference and break room area are also available. Lease terms are flexible, and rental fees include access to shared equipment and some lab support services. For more information, contact Harold Smith, PhD (hsmith@oyageninc.com).
- <u>Central New York Biotech Accelerator</u> Syracuse-based lab facility and program serving for-profit pharmaceutical, biologic, and medical device startup companies who are actively commercializing a biotechrelated product or service. CNYBAC is operated by SUNY Upstate Medical University, but clients don't have to be SUNY employees to license space.
- <u>INCUBATOR</u> <u>@</u> <u>CBLS</u> coworking lab space with amenities, programming, and community in Buffalo; startups do not have to be affiliated with UB to apply
- <u>The Rookery Labs</u> An innovation incubator for medical device research and development in Buffalo
- <u>BioLabs NYU</u> provides an engaging, collaborative space, top-of-theline research equipment, business support and acceleration programming to help startup companies reach their milestones faster.
- JLabs @ NYC coworking lab space with amenities, programming, and community in NYC

 <u>Cure Innovation Campus</u> – move-in ready laboratory space, engineering and computing space, and other amenities and supportive services in NYC

Other Regional Small Business Resources

- <u>ROC Starts</u> central hub for entrepreneurial news and events happening in the Rochester and Finger Lakes region
- <u>RocGrowth</u> portal for entrepreneurs and innovators in the Rochester/Finger Lakes Region of NY
- <u>Upstate Venture Connect</u> UVC's mission is to connect and empower Upstate NY entrepreneurs with the resources for building high-growth companies.
- <u>Upstate Capital Association of New York</u> The mission of Upstate Capital is to increase access to capital for companies and deal flow for investors across Upstate New York by connecting the investment community.
- <u>Nexus i90</u> Nexus i90's mission is to help small businesses thrive across the Greater Rochester Area. They provide entrepreneurs and small business owners with free, easy access to the vital assistance, resources, and information they need.
- <u>SCORE Greater Rochester</u> group of experienced business professionals who provide guidance to those desiring to start up a new small business or to assist existing small businesses in improving their profitability

- <u>Life Sciences NY</u> Trade association focused on fostering innovation and helping New York State's bio/med industry thrive. Delivers tools, programs, and relationships that enable members to bring medical solutions to the healthcare marketplace. Members are New York's pharmaceutical, medical technology, and bio/med companies, leading academic research institutions, manufacturers, suppliers, and service providers.
- <u>New York Small Business Development Center (NYSBDC)</u> provides small business owners and entrepreneurs in New York with the highest quality, confidential business counseling, training, and business research at no cost.

Startup Formation and Equity

- <u>So You Want to Be an Entrepreneur: How to Get Started</u> Harvard Business School
- Y Combinator, FDA: Orientation for Early Stage Startups, 3.2.21
- TechBio Lexicon Top 100 Key Terms
- Founders' Agreement Overview UPenn
- <u>A Complete Guide on Founders Agreements</u> Visible VC
- <u>Choice of Business Entity: Pros and Cons of Corporations and LLCs</u> Article from Mintz Insights
- <u>Formation 101: Choosing an Entity and Jurisdiction</u> Video from Mintz Insights
- <u>Publicly available company incorporation package</u> from Cooley GO

- <u>What is a C-Corp and Why do Investors Prefer it</u> from Excedr
- <u>Why you should incorporate in Delaware</u> from Excedr
- Formation 101: Founder Stock and Vesting Video from Mintz Insights
- <u>What is the CAP Table, and Why is it Important?</u> from Excedr
- <u>Solving the Equity Equation</u> from Osage University Partners
- <u>Beware of employee equity, the credit cards of the venture community</u> from Osage University Partners
- <u>Splitting the Pie: How Savvy Founders Divide Ownership and Navigate</u> <u>Other Founder Equity Decisions</u> from Gunderson Dettmer
- <u>How to Structure Startup Equity for early hires</u> from Pear VC
- <u>Stock vesting</u> from Carta
- <u>Why Should You File a "Section 83(b) election"?</u> from Cooley GO
- <u>Startup Incubator vs. Accelerator: Which is Right for You?</u> Harvard Business School
- <u>Building backward to biotech</u> by Stephanie A. Wisner
- <u>BIOS Video Series</u> Hear and learn from Founders, VCs, Profs, & Pharma at the intersection of Tech & Bio
- <u>Pillar VC Founder Playlist</u> resources, advice, and tools to help you get started and scale, including templates
- <u>The Entrepreneur's Guide to a Biotech Startup, 4th Edition</u> by Peter Kolchinsky, PhD

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- <u>Biotechnology Entrepreneurship.</u> Craig Shimasaki, Biotechnology Entrepreneurship, 2nd edition, Elsevier, 2020.
- <u>Y Combinator Library of Videos, Podcasts, Essays</u>

Teams

- <u>9 Make-or-Break Startup Roles (and Why They Are Important)</u> -<u>MassChallenge</u>
- <u>YCombinator, How to Find the Right Cofounder, Nov 8, 2020</u>
- <u>10 responsibilities of a Startup Founder</u>
- Wharton Magazine, How to Build a Fabulous Founding Team
- Create the Best Founding Team for Your Business, Foundr, 2/8/2024
- How to Build a Scientific Advisory Board
- <u>Building your startup advisory board</u>

Market Sizing

• <u>Market Sizing Guide</u> by Pear VC

Business Models

- <u>Comparison of business models</u>
- <u>A16Z, New Go to Market Playbooks for Digital Health Startups,</u> 10.19.21
- Everything you need to know about Biotech Business Models, 2/17/23

- Deep Dive into platform biotech companies
- <u>A16Z, Another compare/contrast of partnering vs. not</u>
- 2016 article on platform companies
- Al6z Platform-Disease Fit
- <u>LEK, Looking Ahead in Diagnostics and Research Tools: Key Trends</u> <u>Impacting the Industry</u>

Customer Discovery

- How to write a business plan Article from Excedr
- Writing Business Plans for a Life Science Startup or Clinical Program · Academic Entrepreneurship for Medical and Health Sciences (pubpub.org)
- <u>Top 10 tips for standing out at pitch competitions</u>, Johnson & Johnson Innovation
- <u>Get Your StartUp Story Straight</u> by David Riemer
- <u>Pitch Deck Story Telling, Pillar VC</u>
- What it takes to go from 0 to 1, Pear VC

Startup Valuation

- What is Startup Valuation? Article from Excedr
- <u>Biotech Valuation</u> from Exitwise

Fundraising

- <u>A Founder's Guide to Data-Driven Budgeting in Biotech, Pillar VC</u>
- <u>BIOS TechBio 100: VC Funds</u> List of leading TechBio VC funds curated by BIOS
- Venture Studio list
- <u>A Guide to Seed Fundraising, YCombinator</u>
- <u>What is Due Diligence?</u> Article from Excedr
- Series A Diligence Checklist, YCombinator
- Why investors don't Sign NDAs Article by Fundable
- Trace Cohen, 5 things VC's look for in startup founders, Medium, 5.30.23
- Andreessen Horowitz, the 16 commandments of raising equity in a challenging market, 5/2/23
- <u>Financing Your Venture: Venture Capital</u> Video Series from Kauffman Founders School
- Mighty Capital, Fundraising Lessons, 9.6.20 by Jennifer Vancini
- <u>Pitchbook</u>
- <u>Angel Resource Institute</u>
- National Venture Capital Association (NVCA)

Intellectual Property

- Process for obtaining a Utility Patent (graphic) USPTO
- Introduction to Patent Protection- Video from USPTO
- Intellectual Property: Patents Video from Kauffman Founders School
- <u>The standard for inventorship is more stringent than for authorship –</u> <u>and matters.</u> - Article from Mintz Insights
- IP Strategy for Biotechs Article from Excedr
- <u>An IP guide to winning investors for biotech start-ups</u> Article from Managing IP
- <u>Biotechnology Law: A Primer for Scientists</u> Book by Alan Morrison
- <u>Google Patents</u>
- U.S. Patent and Trademark Office (USPTO); USPTO Patent Search
- World Intellectual Property Organization (WIPO).
- European Patent Office (EPO)

Legal

- <u>Ollie Legal</u> OLLIE is an Online Legal Library and Information for Entrepreneurs. This site aims to guide you through the process of getting your business off the ground, legally, and to safely become an entrepreneur.
- <u>Clerky</u>
- <u>Cooley Go</u>

- <u>Mintz Insights</u>
- SPZ Legal Startup Center
- Wilson Sonsini Emerging Companies and Venture Capital
- Hutchison PLLC University Spinouts
- <u>Gunderson Dettmer Insights</u>

Tech Transfer and Licensing

- <u>What is technology Transfer?</u> Video from AUTM
- <u>A Guide for Technology Commercialization at the University of</u>
 <u>Rochester</u>
- Intellectual Property: Licensing Video from Kauffman Founders School
- <u>What is Patent Licensing?</u> Article from Excedr
- Model Legal Agreements from NVCA
- US-BOLT Life Science Sample License Agreement
- US-BOLT Life Science Term Sheet

FDA and Regulatory

- FDA 101: An Overview of FDA's Regulatory Review and Research <u>Activities FDA Website</u>
- <u>Fast Track, Breakthrough Therapy, Accelerated Approval, Priority</u> <u>Review FDA Website</u>

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- Drug and Device Development Process FDA Website
- FDA, Industry Frequently Asked Questions FDA Website
- NIH Clinical Research Trials and You NIH Website
- <u>Guide on Therapeutic Development from Target to Market</u> from BIOS

Partnerships

- <u>Pullan/Thompson, How to Attract a Biopharma Partner, Nature, Nov</u>
 <u>20, 2018</u>
- <u>Tips for Partnering with Big Pharma</u> By University Lab Partners
- <u>Conde and Rughani, Platform Partnership Fit for Bio Startups, 9.8.21</u> <u>Noël Brown and Greg Wiederrecht, RBC Capital Markets, Biotech and</u> <u>Big Pharma Blueprint for Successful Partnership, 10/5/21</u>

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- 2.A Guide For New Business Ventures At The University of Wisconsin-Madison", 2003, UW- Madison Office of Corporate Relations and the Wisconsin Alumni Research Foundation
- 3."The Top 12 Reasons Startups Fail", (August 3, 2021), CB Insights, <u>https://www.cbinsights.com/research/report/startup-failure-reasons-top/</u>
- 4."Beware of employee equity, the credit cards of the venture community" by Dror Futter and Natasha Azar, Osage University Partners, Oct. 29, 2019, <u>https://oup.vc/insights/beware-of-employeeequity-the-credit-cards-of-the-venture-community/</u>
- 5. "Solving the Equity Equation" by Nabil Ullah, Osage University Partners, Jun. 21, 2022, <u>https://oup.vc/insights/solving-the-equity-equation/</u>