

Technology Commercialization Process

The following is a broad outline of the technology commercialization process. Use it to identify where you are in the process and where you will need to go to bring your technology to market. There are links embedded in the outline to take you to additional resources on a particular subject.

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Innovation Evaluation

The innovation process is not linear. In fact, it moves more like a pinball machine—taking off in one direction until it hits a snag, then bouncing off in another direction. Innovation is an iterative process where the inventor learns from his or her mistakes and builds on that learning until the goal is achieved.

The invention and innovation process is generally comprised of four categories of activities: connection, discovery, invention, and application. Briefly, connection involves recognizing a relationship that might lead to a discovery, which is the “ah ha” or eureka! phenomenon that occurs when something new is discovered. From this discovery comes an invention that spawns applications in a variety of different contexts.

At this early stage, it is important to do the following:

- Identify the scientific value of your research
- Identify the commercial value of the research
- Protect your research with bound, signed, and dated laboratory manuals

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Identify the Scientific Value of the Research

This portion of the tech commercialization process is perhaps the easiest for most inventors. It entails determining if you’re dealing with:

- A disruptive technology, that is, a technology not based on an existing paradigm, or
- A sustaining technology, a derivative of an existing technology

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Identify the Commercial Value of the Research

Not all research that has scientific value also has commercial value. Commercial value simply means that there is a market and customers who are willing to pay for your technology because it meets a perceived need. Commercial value is usually determined via a feasibility analysis, which is discussed below.

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Protection of Intellectual Property

Many inventors fail to realize how important it is to protect their work legally so that they have the option to apply for a patent or other form of IP at the appropriate time. Protecting innovative ideas and inventions is critical to successful commercialization. But which type of protection to choose and which strategy will best meet business goals are also vital. In general, there are four major classes of intellectual property: patents, trademarks, copyrights, and trade secrets.

- Patents

A patent gives you the exclusive right to prevent others from making and selling your device. It is an offensive right, that is, you have the right to sue the infringer. To learn more about patents, visit the [US patent office](#).

- Issues related to publication of research
- Preliminary filing for protection – [provisional patent](#)
- [Search of prior art](#)
- Identification of potential industrial partners

- Trademarks

A trademark is simply a brand: a symbol, logo, design, scent, or color. [Click here to learn more.](#)

- Copyrights

Copyrights protect original works of authors, composers, screenwriters, and programmers. The quickest way to provide notice of copyrighted material is to place on the document the following:

©Copyright 2001 YourName

For more information, click [here](#).

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Second Evaluation of Intellectual Property

- Feasibility of the patent – [does it meet the requirements?](#)
- Interest of the industry

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Critical Decision Point

Once the invention is prototyped and the various forms of intellectual property studied, it's time to consider if going after a patent or other form of IP is feasible or necessary to the successful commercialization of the technology. For some products, getting a patent will take longer than the window of opportunity will allow. For others, a patent will provide a brief quiet period to enter the market without competitors. In addition to deciding on whether to patent, the entrepreneur will also have to determine if the invention meets the Patent Office's requirements for patentability and if there is a market for the technology. In general, a device must fall into one of the following categories:

- Machine
- Process
- Articles of Manufacture
- Composition
- New uses for one of the above

To learn more about the PTO's requirements go to <https://www.uspto.gov/>.

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Business Concept Development and Testing

Determining if the invention or innovation is feasible requires the development of a business concept, that is, looking at who the customer is, what the value proposition is, and how the benefit will be delivered (distribution). It also involves a thorough analysis of the industry and market, the management team, and the resources required to start the venture.

- Conduct feasibility analysis
- Determine funding strategy
- Find strategic partners
- Negotiations for equity, funding, and intellectual property

Check the home page for announcements of upcoming workshops and lectures related to feasibility analysis. If you would like to be considered for an MBA intern on your project to help you test its feasibility, contact [Dr. Kathleen Allen](#).

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Business Development

Once a business concept is judged to be feasible, it is necessary to develop the infrastructure for the business—namely, the company. This is typically accomplished by preparing a comprehensive business plan documenting the operations of the business, policies, a marketing and growth plan, and a complete set of financial statements in addition to including updated industry, market, and team analysis from the feasibility study.

Business development also entails setting up the legal structure of the business and the distribution of equity to the shareholders. If outside capital is being sought, negotiations with investors will also take place. Negotiations with strategic partners to implement certain areas of the business plan must be conducted.

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Business Start-up

The actual start-up of the business includes such activities as finding and negotiating for facilities, hiring personnel, stocking inventories of raw materials and components, and general administrative organization.

- Management
- Marketing
- Production
- Strategic alliance

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