

AN INVENTOR'S HANDBOOK

The following is a guide on the invention process, based on our client experience. Designed for potential clients who are unfamiliar with the inventive process, this handbook identifies 5 important phases in developing an idea into a commercially successful product, and explores key individual steps involved in each phase.

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A. Protecting the Idea

1. Intellectual Property Right Protection

Intellectual property rights typically refer to the rights granted under patent, trademark and copyright law.

Patents

A patent is the grant of an exclusive right to an inventor, to exclude others from making, using, offering for sale, selling, or importing an invention into the US for the duration of the patent. A patent is not an affirmative right to manufacture, use, sell or import the invention. Patents are considered personal property and the rights in a patent may be transferred, sold, mortgaged or licensed by an owner, just like any other personal property. The United States Patent and Trademark Office (USPTO) is the government agency that issues patents.

Trademarks

By contrast, a trademark is a word, name, symbol or device which indicates the source of a product and renders a unique identity to the product. Service marks identify and distinguish the source of a service. While a Trademark prevents others from using a confusingly similar mark, it cannot prevent others from making or selling the same products under a clearly different mark. The terms "trademark" and "mark" are commonly used to refer to both trademarks and service marks. Trademarks, like patents are issued by the U.S. Patent & Trademark Office.

Copyrights

Copyright protection extends to authors of creative works. Creative works comprise any creative expression fixed in a tangible medium. A copyright grants the owner the exclusive right to reproduce, copy, perform, display or prepare derivative works of the copyrighted work. Examples include novels, fine and graphic arts, musical compositions, musical sound recordings, photography, software, and audio visual works. Copyrights prevent others from using, copying or commercially exploiting original works of expression without the permission of the owner of the copyright. Unlike patents and trademarks, copyright registrations are issued by the U.S. Copyright Office.

B. Preliminary Patent Matters

I. “Idea” vs. “Invention”

Frequently, potential clients contact us to see if we can help them protect an idea. Alternatively, potential clients approach us wishing to sue a person or company whom they feel has stolen an idea.

It is important to distinguish between *ideas*; concepts that cannot be the subject of intellectual property rights, and *inventions*; specific machines, materials or processes that can be patented and protected.

Ideas that merely address a problem to be solved, or propose a hypothetical machine or method for solving a problem without specifically discussing how the machine or method works are considered abstract ideas by the Patent Office and may not be granted patent rights.

By contrast, when an inventor takes an idea and reduces it to practice by establishing the best mode of carrying out the invention, and can describe to a person of similar skill in the Art to which the invention pertains, how the invention is made and used, patent rights may be granted on such an invention.

Therefore, before attempting to pursue patent rights, it is important finish the inventive process, making sure that the subject matter of a potential patent application consists of more than mere abstractions.

II. “Publishing” an Idea/Invention

Since mere ideas cannot be protected with patent rights, an idea cannot be owned, and may be exploited by others. Therefore, when an inventor is pursuing an invention based on an idea, it is best not to reveal the idea to others who might pursue a similar competing invention.

Although disclosing an idea doesn’t impact the right to patent an invention based on that idea, there are rules that come into play, once an invention is created.

In the U.S., inventions are not patentable if they have been in public use or on sale more than one year before an application is filed. By contrast, in many foreign jurisdictions, an absolute novelty rule is observed; if an invention is published at all before a patent application is filed, no patent may issue on that invention. For these reasons, it is usually best not to publish, publicly use, or sell an invention before filing a patent application.

C. Assessing the Idea

Before investing a considerable amount of time, energy and money on an invention, potential inventors should consider two questions. First, *can* the invention be patented? This refers to whether or not an invention is eligible for patent protection. The second question is; *should* the invention be patented? This refers to whether or not an invention is worth patenting even if it can be patented.

I. Is Patenting Possible?

In order to obtain a patent, an invention must be novel (“new”), useful, and non-obvious. Any invention is novel as long as it has not been known or used by others in this country, or patented or described in a printed publication in any country before the date of invention. The invention must be different in some way from all other previously known inventions. Other novelty rules include the one-year prohibition on patenting inventions that were publicly used or on sale (as mentioned above).

The usefulness requirement can be satisfied as long as an invention serves some utilitarian function. This is a relatively easy standard to overcome, and even minor utility satisfies the requirement.

Finally, the invention must be non-obvious in light of other inventions in the Art. This means that the improvements sought to be patented cannot be improvements that would be obvious to someone of similar skill as the inventor seeking the patent.

II. Is Patenting Practical?

Even if an invention can be the subject of a patent, it may be impractical to patent the invention for one or more of the following reasons: It will be difficult to detect and deter infringers, the invention has little market value or will have a short lived market value, the goal of the invention can be accomplished in a variety of ways, or in situations where the invention is best preserved as a trade secret.

III. Research: The Idea and the Market

In order to assess the question of whether a patent application should be filed, it is important to research other inventions in the Art (the *field* of the invention) and the commercial viability of an improvement in the marketplace. This assessment should include the following:

Potential Customers: Prospective customers who might use the invention can provide resourceful insights, critical analysis and feedback on existing similar products as well as suggestions for improvements.

Competing Products: Existing products in the Art can be a valuable resource for predicting the success of an invention. In particular, the respective advantages and disadvantages of products already on the market; and how they compare with each other can yield valuable information.

The Market: If the market is very small, or of a limited duration, it may be advisable not to file a patent. Patent applications typically take between two and three years to issue, and in very small markets, the nature of the competition may not warrant the expense of obtaining a patent. It may be advisable to visit trade groups or industry meetings such as trade shows to see recent developments in the art and the market.

Market research firms specialize in researching potential products, and may be a useful source of information. These firms can be useful in determining the potential competition your product will face, demographics for customers, and financial information regarding the economic feasibility of the invention.

Logistic Problems: If the invention can easily be reproduced by others, and in particular, if it will be difficult to detect or deter infringers, it may not be advisable to seek patent protection. If the invention fails to provide a competitive advantage, such as offering a cheaper or better alternative to inventions known in the art, a patent may be inadvisable. If there are multiple inventors who have not assigned their rights in the invention, they will have the right to practice the invention should a patent issue, diluting the patent rights. Finally, if filing a patent on an invention will necessarily involve the disclosure of trade secrets – since patents are public documents – it may be inadvisable to file an application.

IV. Disclosure of the invention

As inventors transform ideas into completed inventions, it is often necessary to disclose parts of the invention to third parties prior to filing for the patent. This may include others skilled in the art of the invention, potential investors, and persons involved in marketing inventions.

Record Keeping: It is a good idea to maintain a record book for the invention, which is signed and dated. In some instances, it can be worthwhile to have documents notarized. Although many countries are “first to file” jurisdictions, the

United States is a “first to invent” jurisdiction, and documents related to the date of invention (as opposed to the application filing date) can be useful as evidence.

Contracts: Contracts are also useful tools in preserving patent rights. Non Disclosure Agreements can be a valuable safety mechanism for protecting an invention. Although such agreements provide only a contractual remedy in the event of an unauthorized disclosure, such an agreement is an inexpensive deterrent against the unauthorized use of information related to an invention. Non-Disclosure agreements are frequently combined with Non-Compete Agreements to prevent third parties from capitalizing on disclosed information.

Assignments: If there are multiple co-inventors, each inventor will have an equal undivided right in the invention. Therefore an assignment agreement should be in place before disclosing or developing an invention with third parties. Under such an agreement, each inventor agrees to assign their rights in the invention to another party, such as a company or partnership that will own the patent rights. This prevents multiple inventors from undercutting each other in the market if the invention is a success.

V. Patent Searches

A preliminary search of an invention can be useful to assess the current state of the Art regarding the invention, understand potential prior art references, and to avoid infringing existing patents. If a patent has already been granted on an invention, no subsequent patents may issue on the same invention. However, improvements to patented inventions that are themselves novel, useful and non-obvious are patentable.

Inventors can search issued patents and published applications online at <http://www.uspto.gov/patft/index.html>, or in person at a USPTO patent depository library.

Professional searches can be conducted using a patent search firm, or patent law firm. Using professional services is frequently advisable, since patent searchers are familiar with the USPTO classification scheme, and will search entire classes and subclasses of inventions.

D. Commercializing the Idea

The following information relates to commercializing inventions. Typically, once an invention has been searched, a patent application can be drafted and filed. In order to commercialize an invention, it is frequently useful to develop a business plan, obtain financing, ascertain how the invention is to be sold, and settle on marketing strategies for the invention.

I. Business Plan

A Business Plan serves both as the resume of a business as well as its route plan. Business plans are useful in defining a business, its objectives, mission and goals; serving as the structural framework on which the business can develop and prosper; serving as a communication tool for goals and strategies with investors, banks, employees, suppliers; and measuring, analyzing and reviewing results against expectations.

A business plan should present relevant information about your business, including the following:

Executive Summary: Gives a brief but clear picture of the business, its objectives and strategies. The executive summary should be a thorough and concise summary of the business plan that prompts readers to continue through the entire report. Although the executive summary is the first section, it should be written after completing the entire business plan.

Statement of Purpose: Expresses the statement of purpose for the business, along with its mission, vision, objectives and goals.

Corporate Section: Provides details about the incorporation, ownership, activities, history or start-up plans and any other relevant information regarding the business.

Product and Service Profile: A short profile of the entire product and service portfolio.

Market Analysis: Includes information and statistics on target markets, customer needs, preferences and prevailing trends. Business prospects and customer bases are profiled and shifting trends or preferences in the future are analyzed.

Industry Analysis: Covers general and specific information about the industry. Major competitors in the industry should be profiled as well as the general outlook for the industry in the near future.

Competitor Analysis: Identify the major competitors in the industry. Briefly describe the common distribution patterns and pricing policies. A matrix that compares the cost, features and benefits offered by the important competitors will clarify these issues.

Technology: Include information on current technologies being used in the industry, its scope and chances of obsolescence. Describe emerging technologies, if any.

Strategies: Give specific details regarding marketing strategies, sales plans and projections. Include relevant details on promotion, distribution, pricing and positioning strategies.

Responsibilities and Milestones: For each of the plans and tasks identified in the previous sections, assign individual responsibilities, set milestone dates, times and budgets. This information can be included in individual sections.

Management: Profiles management team members along with their areas of responsibility. List the organizational and operational structure to be followed.

Financial Analysis: Include projected Profit and Loss and Cash Flow tables along with Balance Sheets. The break-even analysis and relevant business ratios will give the plan a considerable edge. These financial projections are normally done for a period of 3-5 years and can be split into monthly or quarterly formats. The section should also give details on major assumptions as well as long term plans.

Funding Requirements: Include funding requirements, if any, possible sources and likely terms. Discuss the projected return on investment.

Conclusion: A brief statement summing up the business plan.

This structure is just one example of a potential business plan. Sections may be added or omitted based on the specific needs of a business. Sample plans and more information are available at the US Small Business Administration, at www.sba.gov. Professional business plan writers might also be consulted.

II. Sources of Financing – Debts and Equity

The most commonly used sources of financing are debts and equity. Most businesses need both and must use each in the right way at the right time. Normally, debt follows equity. Equity is best used in the initial stages for research and development, product development, and later for sales and marketing initiatives. Debt is ideally used for meeting working capital needs and building infrastructure.

Equity Financing

Equity Financing is the grant of financial funding in exchange of a proportional allocation ownership in the business. Equity financing is considered risky for both the investor and the owner of the business. An equity investor, unlike a debt financier is totally at risk and has no absolute guarantee of returns. It may prove

equally costly for the owner of the business as depending on the size of investment and level of risk, they may seek a control position and seats on the company's board of directors.

Major sources of equity financing often include

Friends and Relatives: A source of additional equity from non professional investors such as friends, relatives, employees, customers or industry colleagues.

Venture Capitalists: Institutional risk takers are one of the most common equity finance providers. They may be groups of wealthy individuals, government assisted sources or major financial institutions who normally specialize in one or a few closely related sectors. They will support any venture which they feel is worth the risk, be it start-up businesses, a company that is expanding or acquiring another firm. The characteristics in your business that may attract the interest of a venture capitalist include:

- a. A Strong Management Team – with finance, sales and technology expertise and business acumen
- b. Return on Investment – a ROI of 25% or more
- c. Unique Product - a different, innovative, better and useful product or service mix
- d. Patent – the product should be patented or patent pending.
- e. Ownership – proportionate allocation of shares as well as membership in the board of directors
- f. Agreement on Exit Strategy – Normal investment term may be 5-10 years and the preferred exit options include an Initial Public Offering (IPO) or strategic purchase of the company by a third party.

More information is available at the U.S. [Small Business Administration](#), and [The National Venture Capital Association \(NVCA\)](#).

“Angels”: This term refers to high net worth individuals who are prepared to take substantial risks by investing in business ventures that may interest or inspire them. Investment decisions are typically based on a number of parameters that may include:

- a. A strong management team with finance, sales and technology expertise and business acumen
- b. A high return on investment
- c. Documents reflecting the existing investment in the business
- d. The support of a lead investor, an expert evaluation of your product and market, and expert due diligence.
- e. Exit options, including sell out provisions.

Public Financing: Allowing the public to buy shares in the company on the public market. These shares get traded in the recognized stock exchanges. But a company cannot simply decide to issue and/or transfer shares to investors. U.S. Securities and Exchange Commission (SEC) has laid out detailed rules and regulations to protect investors and maintain the integrity of the securities markets. There is specific legislation governing how and when companies may go public, and restrictions on the transfer of shares, number of shareholders and advertisement of shares. In general, going public is really only a viable option for well-established companies. If you think going public is right for your company, begin by talking to a financial advisor or lawyer specializing in this area. For more information related to public issue of shares in US, please visit www.sec.gov

Strategic Alliances: Forming an alliance with another company that will benefit from your products or services. The major resources to search for potential strategic alliance partners include trade directories and patent publications. Strategic Alliances may be formed with large corporations, research universities, community groups and other entities. The support can be in the form of capital, human resources, office space, intellectual property etc.

Debt Financing

Debt financing refers to borrowed money, which has to be repaid over a specified period of time, with interest. Lenders charge interest for loaning of money without a share or equity in the business. Generally debt financing is approved against assets like house or property as security. There are numerous sources of debt capital, including commercial banks, credit unions, the government, credit card companies, community organizations, and specialty finance companies.

Note: Whether loan support is needed or not, take particular care to start a banking relationship. This reference support will be of immense help when looking for financial assistance in the future.

Commercial banks: Commercial banks are the most common and visible lenders. Though they accept collateral for business loans, loan approval rests on your ability to repay the loan as shown by your profit projections, management skills and your personal record.

Commercial finance companies: If you cannot secure finance from a bank, you can try one of the many commercial finance companies. They rely on the quality of your collateral and hence, commercial finance companies will be of no use, if you do not have substantial personal assets or collateral.

The main types of commercial loans, include

- a. Short-term commercial loans (30 to 90 days) - Normally used by small businesses for business operation expenses such as rent, insurance, advertising, inventory or salaries. They are often unsecured.
- b. Intermediate-term loans (1-5 years) – Normally used to fund purchase of business equipment, fixed assets or provide working capital support. They are usually secured by the new equipment or business assets.
- c. A long-term commercial loan (more than 5 years) – These loans are generally secured and are used for business expansion – new buildings, acquisition of an existing business, purchase of real estate.
- d. Line of Credit – The banks set an upper limit of loan at a specified interest rate and allow the business to borrow against it when needed. The repayment would be over a longer period of time and the interest charged only on the amount borrowed.
- e. Factoring of Receivables – Allows the bank to control the collection of the company's accounts receivable, either through direct deposit or through monthly loans as receivables are presented.
- f. Receiving Credit – To support businesses, like contracting companies that are in up and down cycles. This type of loan should not be used for the purchase of assets

Other Funding Options

The Small Business Administration (SBA): An independent government agency that helps small businesses by providing loan guarantees, participating with bank loans, and also by making a limited number of direct loans. Businesses are eligible for support when recognized as a small scale enterprise by the SBA and if they have already secured reasonable financing from other sources. Please visit www.sba.gov for more information.

Small Business Investment Companies: Privately owned companies that are licensed and regulated by the SBA. They provide equity capital, long-term loan funds and management help to small businesses. Please visit www.sba.gov for more information

The Rural Economic and Community Development Agency (RECD): Guarantees term loans to non-farming businesses in rural areas. The guarantees can cover up to 90 percent of the total loan from a private lending institution, and there is no set loan limit for one company. Please visit <http://www.rurdev.usda.gov> for more information.

Note – This is not a comprehensive list of government agencies that can offer financing help to your business. There are numerous plans, schemes and agencies established by the federal, state and local governments to promote new enterprises in the country. Please contact your nearest business promotion office.

III. Manufacturing, Licensing and Assigning

Manufacturing will require an investment in terms of money, effort, time, energy and human resources. The element of risk is the highest with this option. Financing can also become very critical. Consider the following options before finalizing a manufacturing strategy:

- i. Outsource or contract the manufacturing to a third party manufacturer
- ii. Source the components and split the assembling part between the business and a contract/outsourcing partner.
- iii. Take total responsibility to manufacture and assemble the invention.

By contrast, a license is a grant to another person or company who takes total responsibility of manufacturing, distribution, marketing and selling the invention. The advantage is that ownership is preserved while reducing financial risk. Royalties from the license can include an up-front payment as well as royalties based on the actual commercial performance of the invention.

An invention can be licensed only if it holds a patent or at least a ‘patent pending’ status. Keep in mind the license is for the patent and not the invention per se. A professional licensing agent or attorney can assist in constructing a suitable license and negotiations with licensing partners.

An assignment is the complete grant of ownership rights in a patent to an interested buyer. The price will depend on the attractiveness and salability of the

invention in the market. The buy out is normally against a fixed price with no option of any royalties in the future. Importantly, the previous owner will have no ownership rights in the invention. As with licensing, an invention can only be assigned if it is the subject of a patent, or has 'patent pending' status.

Important parameters that will improve your chances of licensing or selling include:

- a. Patent or Patent Pending Status
- b. Market research or other empirical evidence to demonstrate the possible market success of the invention
- c. The life expectancy of the product
- d. How advanced the invention is; Low chance of obsolescence
- e. The potential to design or develop variant products based on the original invention.

IV. Marketing Strategies

An ideal marketing strategy should be 'customer centric' and should revolve around your target market, its needs and aspirations and efforts to meet and surpass those expectations. Marketing strategy plans should effectively connect the product, price, place, promotion, and people involved to yield optimum results.

- a. Product: The invention, along with all its features and benefits
- b. Price: How the product is priced and what strategies are adopted verses the competition.
- c. Place: Distribution channels; the point of sale; how and where the customer can buy the product. Decide to reach customers directly (via trade shows, direct sales, mail order, etc.) or indirectly (through distributors, wholesalers, retailers, reseller, agents, multi-level marketing networks, brokers etc.).
- d. Promotion: Advertising, Promotion (discounts, coupons, reward programs etc.), Publicity and Public Relations
- e. People: Mainly customers and prospective customers. Also selection, training, responsibilities, targets and monitoring employees; sales, marketing, distribution, collection and customer care personnel.

Apart from the business plan, a detailed Marketing Plan that defines and describes business objectives, targets, strategies and plans on the marketing front will be effective. Assign both team and individual responsibilities as required along with set milestones and deadlines. A marketing audit to measure, analyze, review and suggest corrective measures is important as well.

E. Analyzing Performance

I. Contingency or Disaster Recovery Plan

Contingency and disaster recovery plans should be in place. A contingency plan might be a detailed or broad outline of several plans of action to proceed with if the original business plan is found ineffective. Anticipate anything that could go wrong and have alternate options and a written plan for such exigencies.

II. Product Performance and Commercial Results

Inventors normally draw up impressive and meticulous plans, but falter when it comes to the execution. More often than not, no importance is given to measure, analyze or review the actual performance or results of an invention. Always assign individual or group responsibilities with set milestones and deadlines. Have a system to continuously measure, monitor and record the results. Conduct regular review meetings and take quick steps to devise corrective measures or alternate plans when required.