

Intellectual Property Strategy

A Guide for Sustainable Entrepreneurs

SUSTAINABLE ENTREPRENEURSHIP PROJECT

Dr. Alan S. Gutterman

Intellectual Property Strategy: A Guide for Sustainable Entrepreneurs

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The Sustainable Entrepreneurship Project (www.seproject.org) engages in and promotes research, education and training activities relating to entrepreneurial ventures launched with the aspiration to create sustainable enterprises that achieve significant growth in scale and value creation through the development of innovative products or services which form the basis for a successful international business. In furtherance of its mission the Project is involved in the preparation and distribution of Libraries of Resources for Sustainable Entrepreneurs covering Entrepreneurship, Leadership, Management, Organizational Design, Organizational Culture, Strategic Planning, Governance, Corporate Social Responsibility, Compliance and Risk Management, Finance, Human Resources, Product Development and Commercialization, Technology Management, Globalization, and Managing Growth and Change. Each of the Libraries include various Project publications such as handbooks, guides, briefings, articles, checklists, forms, forms, videos and audio works and other resources; management tools such as checklists and questionnaires, forms and training materials; books; chapters or articles in books; articles in journals, newspapers and magazines; theses and dissertations; papers; government and other public domain publications; online articles and databases; blogs; websites; and webinars and podcasts.

About the Author

Dr. Alan S. Gutterman is the Founding Director of the Sustainable Entrepreneurship Project and the Founding Director of the Business Counselor Institute (www.businesscounselorinstitute.org), which distributes Dr. Gutterman's widely-recognized portfolio of timely and practical legal and business information for attorneys, other professionals and executives in the form of books, online content, webinars, videos, podcasts, newsletters and training programs. Dr. Gutterman has over three decades of experience as a partner and senior counsel with internationally recognized law firms counseling small and large business enterprises in the areas of general corporate and securities matters, venture capital, mergers and acquisitions, international law and transactions, strategic business alliances, technology transfers and intellectual property, and has also held senior management positions with several technology-based businesses including service as the chief legal officer of a leading international distributor of IT

products headquartered in Silicon Valley and as the chief operating officer of an emerging broadband media company. He received his A.B., M.B.A., and J.D. from the University of California at Berkeley, a D.B.A. from Golden Gate University, and a Ph. D. from the University of Cambridge. For more information about Dr. Gutterman, his publications, the Sustainable Entrepreneurship Project or the Business Counselor Institute, please contact him directly at alanguutterman@gmail.com.

Intellectual Property Strategy

§1 Introduction

The creation, protection and thoughtful commercialization of intellectual property rights have become an important matter for companies of all sizes and across all types of industries. The competitive impact of intellectual property rights is illustrated by the explosion in patent applications coupled with escalating legal costs for companies prosecuting and defending intellectual property litigation. Intellectual property is a high value and high risk asset for the company and requires the attention of the board of directors as part of their broader fiduciary duties to the company and its stakeholders. Members of the board of directors must be prepared to oversee the company's intellectual property rights portfolio and, as such, must be regularly briefed by senior management and provided with training on the nuances of intellectual property law. Board members must also be informed of intellectual property activities of competitors and the role that intellectual property is and will play in the evolution of the company's markets.

An important role for the board of directors and the members of the executive team is developing and implementing an intellectual property strategy that identifies the areas that the company needs focus its creative and innovative efforts and aligns those areas with the company's overall goals and objectives for effectively competing in the market and otherwise meeting the expectations of its stakeholders. As with any strategy, the intellectual property strategy must effectively address the specific needs of the company and assist the company in achieving its commercial goals and objective. The intellectual property strategy should also include programs and tools, such as an intellectual property compliance program¹, that will stimulate creativity within the organization and facilitate the collection of ideas and the steps that are needed in order to perfect, maintain, exploit and enforce valuable intellectual property rights. The intellectual property strategy will impact core activities such as new product development and commercialization and the information gathered during the course of developing the intellectual property strategy should reduce the risk that investments in innovation will be wasted due to the failure to create products and services that can protected and that do not infringe upon the intellectual property rights of others.

While there are many ways to develop an intellectual property strategy, it is important to begin with identifying the business goals and objectives of the company and figuring out how those goals and objectives can be achieved from an intellectual property rights perspective. The next step is to audit the company's existing intellectual property rights and evaluate the competitive intellectual property landscape in which the company is operating. The company should then determine what will need to be done in order to align its intellectual property rights with its business goals and develop appropriate strategies and tactics for acquiring, through development, licensing or purchasing, the

¹ For discussion of intellectual property compliance programs, see "Intellectual Property Compliance Programs and Manuals" in "Technology Management: A Library of Resources for Sustainable Entrepreneurs" prepared and distributed by the Sustainable Entrepreneurship Project.

missing intellectual property rights and fortifying those rights to strengthen them in the face of competition.

§2 Identification of business goals and objectives

Every company should have overriding business goals and objectives and strategies to pursue those goals and objectives. Simple and common goals include increasing revenues and profits, building market share in existing markets, pushing out into new markets with existing products and services, reducing costs through technology and other productivity enhancing strategies and operating in a more sustainable fashion to meet the needs and expectation of the company's stakeholders. In most cases, it is possible to identify an important role that intellectual property rights can play in achieving these business goals and objectives. For example, when the company is focusing on building market share and increasing profitability of its products by blocking or otherwise discouraging competitors from entering the market, its intellectual property strategy should include building a strong patent portfolio and vigorously enforcing its patent rights. If increasing return on investment from innovation is a priority, the intellectual property strategy should emphasize licensing and other alternative means for monetizing the company's intellectual property rights portfolio. Creating better visibility for the company can be achieved through marketing and advertising, activities that call for strategic use of copyrights and trademarks. If the company is interested in attracting investment, the intellectual property strategy should emphasize perfection and enforcement of intellectual property rights and include a comprehensive intellectual property rights compliance program that assures investors that the fruits of investment in innovation are not being lost.

It is also possible to identify certain aspects of the company's competitive marketplace and projected commercialization strategies that will likely influence the emphasis of its intellectual property strategy:

- **Product life cycle:** It is important to understand the lead time for introducing new products into the market and the typical product life once products have begun to be offered for sale. As a general matter, trade secret protection is the more cost-effective approach for products with shorter life cycles and the longer protection offered by patents are less valuable in those instances; however, seeking the exclusionary rights offered by a patent, even when the product life cycle is short, may be necessary when there is a significant risk that competitors will be able to emulate the performance of the company's products through lawful "reverse engineering".
- **Exploitation strategy:** Decisions as to where and how protectable technology, ideas and information will be exploited will impact intellectual property strategies. If the new products will be manufactured and/or sold in foreign markets, consideration needs to be given to compliance with intellectual property laws in those markets and how they will actually be enforced. If the company intends to rely on outside parties to manufacture its products a decision needs to be made as to whether the company is comfortable with disclosing manufacturing processes as trade secrets or whether it is

best for such processes to be patented, a decision which will be driven by how easy it would be for the company to detect that its patents are being infringed.

- **Markets:** The size and value of the projected markets for the company's products, and whether those markets are short- or long-term markets for the company, should be taken into account in determining the level of investment in the intellectual property protection for such products. If products are being introduced in large and important long-term markets for the company, significant resources should be invested in intellectual property protection and, in particular, vigorously enforcing those rights and discourage new competitors from entering the market. In turn, companies sometimes enter smaller markets for a limited period of time to exploit technologies that are near their "end of life", a strategy designed to squeeze out a modest amount of revenues from prior investments in intellectual property rights.
- **Competitors:** The anticipated intellectual property strategies of competitors, some of which can be predicted from their prior actions, should be considered early in the product development process. Consideration needs to be given to whether or not the company intellectual property rights will be respected. For example, if the new product is likely to be considered substantially similar to that of a likely competitor, the company should anticipate that the competitor may initiate costly and delaying infringement litigation.
- **Potential infringers:** Competitors are likely to challenge the company's intellectual property strategy by developing alternative intellectual property protection methods and/or challenging the enforceability of the company's intellectual property rights; however, other companies willing and able to willfully infringe on the company's intellectual property rights must also be identified as they can obviously do substantial damage to the company. For example, are their enterprises in foreign countries who are known for creating and selling "knock offs" of well-known products, even though such activities are clearly infringing. If so, the company has to consider the costs of stopping those activities. The possibility of a "grey market" for the company's products emerging also needs to be taken into account. Companies need to analyze the feasibility of entering into licensing arrangements with infringers as an alternative to costly infringement actions.

§3 Identification of the company's intellectual property rights

Once the potential role of intellectual property rights in relation to the business goals and objectives of the company are understood, it is time to conduct an audit to identify and catalog the company's current intellectual property rights in order to understand strengths and uncover weaknesses that will need to be addressed in order for the company's intellectual property rights portfolio to fulfill its supportive role. Among other things, an intellectual property rights audit provides valuable information that can be used to set priorities for the company's internal research and development strategies, identify risks associated with the company's intellectual property assets, develop a commercialization strategy for those assets, design an effective protection and enforcement program for the assets, make informed decisions about licensing in or otherwise acquiring intellectual

property rights from third parties and avoiding infringement of the intellectual property rights of third parties.²

The scope and complexity of the audit depends on several factors including the amount of time available and the financial and human capital resources that can be devoted to the audit. While the discussion in this section assumes that the audit will cover all types of intellectual property assets, a particular audit may be limited to just one type of asset (e.g., the enforceability of existing patents and the adequacy of internal procedures for identifying new inventions that may be suitable for patent protection). In general, there are several key steps in the audit process, which should be overseen by experienced professionals and supported by representatives of each of the key departments and business units within the company to ensure that the necessary information for completing the audit is collected:

- ***Identify and describe the primary goals and objectives for the audit:*** Companies do not have unlimited resources to invest in the intellectual property audit and it is important to determine the scope of the audit in advance by identifying the describing the primary goals and objectives of the audit such as assessing the company's overall intellectual property portfolio, reviewing internal research and development priorities and processes, identifying new intellectual property assets and ensuring that steps are taken to protect such assets, preparing for due diligence by an investor or other potential strategic partner or collecting information necessary to enforce or defend intellectual property rights.
- ***Identify the company's existing intellectual property assets:*** In order to identify the company's existing intellectual property assets, the audit team should review documents (e.g., workbooks, employment and consulting agreements, confidentiality agreement, licenses and other agreements relating to intellectual property rights and records of statutory filings), conduct a company-wide survey, interview relevant employees and conduct site visits to see how the assets are secured and used in day-to-day work activities.
- ***Organize the collected information regarding the company's existing intellectual property assets into an accessible database:*** The collected information should be entered into a database that facilitates the analysis required in the next step. The database should include a description of each intellectual property asset, including form, expression and format; the date of creation and expected expiration date of any rights associated with the asset; details regarding the creators of the asset (e.g., inventors and other contributors to patentable inventions), including their status in relation to the company (i.e., employee or contractor); for assets acquired from a third party, details of the relationship with the party and any contractual terms; details regarding commercial usage of the asset, such as licensing terms; where the IP asset was acquired from a third party, description of the relationship; and details of any third party claims, encumbrances or other risks associated with the asset.

² For discussion of intellectual property audits, see "Auditing the Company's Intellectual Property Assets" in "Technology Management: A Library of Resources for Sustainable Entrepreneurs" prepared and distributed by the Sustainable Entrepreneurship Project.

- **Analyze the collected information regarding the company's existing intellectual property assets:** One of the main purposes of organizing the documents and other information collected during the audit process is to facilitate the important step of carefully analyzing the information to verify the validity and ownership of each intellectual property asset, identify and assess the importance of any third party rights in any of the assets, identify any restrictions on the rights of the company to utilize the assets and estimate the remaining useful commercial life of the asset. At this point, it is important to consider the validity and scope of assignments of inventions and protectable ideas to the company by employees and consultants and carefully relevant provisions of agreements with outside parties relating to development and use of intellectual property.
- **Report the results of the intellectual property audit:** The results of the audit, including the process that was followed for collection of information on and analysis of the intellectual property assets, should be set out in a report that is organized in a manner that is aligned with the previously determined goals and objectives of the audit. In most cases, the report also covers additional issues such as the effectiveness of the company's overall management framework for its intellectual property assets, the competitive strengths and weaknesses of the company intellectual property portfolio and protection system, recommendations for changes to the framework to improve monitoring of developments in the intellectual property area in the future, improvements and changes to the company's intellectual property strategy, areas that present the greatest risk for infringing third party rights and assets identified in the audit for which strategic decisions (e.g., whether to seek patent protection) are needed.

§4 Valuation of the company's intellectual property rights

The results of the audit process will allow the company to determine the value of its intellectual property assets, an important factor in setting the actual intellectual property strategy.³ Valuation of intellectual property assets includes both quantifiable and qualitative elements and gives the company a good sense of whether a particular asset is essential, secondary or surplus to the company, categories that are discussed in more detail below. The value of a particular asset will change over time depending on the nature of the asset, its strategic importance to the company and competitive conditions in the marketplace (e.g., the emergence of new technology and associated intellectual property rights). As such, a new valuation of an intellectual property asset should be done when deciding whether to continue with a particular research project; when deciding whether to apply for formal protection of an asset (e.g. patents, trademarks, designs); when deciding whether to dispose of an asset; when licensing in intellectual property from a third party; when granting a third party access to the asset (i.e., when licensing out the asset to a third party); and when deciding on the best way to commercialize the asset.

³ Portions of the discussion in this section are adapted from Intellectual Property Manual for the Engineering Team (Brisbane, Australia: Engineers Australia, 2013), 125-130.

Valuation of an intellectual property asset is as much an art as it is a science and the outcome of the valuation process for a specific asset will vary from company-to-company. Factors to be considered when valuing a particular asset include the following:

- **Revenue contribution:** What intellectual property supports the products that make up the bulk of the company's revenue; what intellectual property supports the company's most profitable products; and does any intellectual property bring in revenue independently (e.g. from licenses) and if so, how much?
- **Margin contribution:** To what extent does the intellectual property give the company's products an advantage over those of its competitors and how much more can the company charge for its products because of that advantage?
- **Marketing benefits:** Does the intellectual property give the company a marketing advantage over its competitors and will consumers perceive the company's products as being of better quality because of the intellectual property?
- **Organizational value:** Is the intellectual property necessary to secure funding for expansion of the company and how do potential financing sources view the company's intellectual property asset portfolio?

The factors described above are useful in making the necessary connections between the company's portfolio of intellectual property assets and its overall goals and objectives and provide clues as to what the company might choose to emphasize when setting its intellectual property rights strategy. For example, intellectual property rights that support products that make a significant revenue contribution, and which are expected to remain important revenue generators for the foreseeable future, deserve attention when allocating resources for protection of the portfolio. If the company is seeking funding from outside investors, it will need to develop an intellectual property rights portfolio that supports the project growth outlined in the company's business plan.

Valuation analysis requires consideration of a number of potential sources of value relating to intellectual property rights such as the scope of the company's rights to practice the rights (i.e., technical fields and geographic territories, degree of exclusivity and duration); commercial data generated in the course of practicing the rights; rights to future improvements developed by licensees obligated to assign such improvements to the company under the terms of license agreements; sublicensing rights; "sunk costs", including patent expenses; potential returns from actions against infringers; rights under indemnification provisions from licensees; value based on quality control of protected products; and regulatory approvals previously obtained for products based on the intellectual property.

As noted above, valuation of intellectual property rights has both qualitative and quantitative elements. Qualitative valuation of an intellectual property asset is based on considering a number of questions regarding the strategic and operational significance of the asset and the commercial potential of the assets:

- Is the asset essential to carrying out the company's functions or achieving its business goals and objectives?

- Is the asset necessary for the performance of a particular key task that is essential for the company's operations?
- Does the company require continued access to the asset in order to maintain the necessary state of operational readiness?
- How much has the company invested in the creation and development of the asset, making sure to take into account overhead and personnel expenses?
- What are the future maintenance costs of the asset?
- Could the asset be replaced if it were no longer available to the company and, if so, at what cost financially and in terms of disruption to business activities?
- How does the performance of the asset compare with available alternatives?
- What is the nature of the asset and its stage of development?
- Can the asset be commercialized without much a significant amount of additional time and resources in adaptation or development?
- Is there a demand in the marketplace for products or services applying the asset and, if so, what is the estimated market size and competitive conditions in the market?
- Are other companies likely to be interested in using, buying or licensing the asset?
- Can the asset be formally registered and protected (e.g., as a patent, registered design or trade mark) and what is the assessment of the strength of such registrations in the face of the intellectual property rights of others?
- Does the company have the unrestricted right to commercialize the asset (i.e., has a "freedom to operate" search been conducted)?
- Does the asset support products making up a material portion of the revenues of the company?
- What assets support the company's most profitable products and services?
- Do any of the assets bring in a significant amount of revenues independent of any particular product or services (e.g., through licensing arrangements)?
- What is the competitive advantage that an asset provides the company over its competitors and how much surplus value can the company gain from such advantage (i.e., how much can the company charge for its products above its competitors because of the advantage)?
- Does an asset provide the company with a marketing advantage over its competitors (e.g., customers perceive the company's products as having better quality because of the company's intellectual property assets)?
- Can the asset be used to help raise funding to expand operations and how do funding sources perceive the value of the company's intellectual property assets?

Quantitative valuation of an intellectual property asset focuses on attempting to assigning a dollar amount valuation to the asset and is important when preparing financial statements, determining the sale or purchase price for a transaction involving the asset (e.g., an assignment or license), raising funding from outside parties, negotiating the purchase price for the company in a merger/acquisition transaction, deciding on the best strategy for commercialize the asset and determining potential damages in a legal action involving the asset. Quantitative valuation depends on various factors including the strength of the intellectual property rights associated with the asset, the expected life of the asset, the stage of development of the asset, the size of the potential market, and the

availability of alternative technologies. Common methods for quantitative valuation of intellectual property assets include the “market approach” (i.e., determining the comparable price or royalty that could be achieved by similar assets in the market), the “cost approach” (i.e., determining the reproduction or replacement cost of the asset at the date of the valuation); and the “income approach” (i.e., determining the estimated future income to be generated by the asset over its expected life).⁴

As noted above, valuation of the company’s intellectual property assets becomes a significant issue when the company is looking to raise financing from outside investors. One of the purposes of the intellectual property strategy, as well as related initiatives such as establishing an intellectual property compliance program, is to be sure that the company is ready for the questions that investors will be asking about the company’s intellectual property assets. In general, the due diligence investigation in anticipation of a financing transaction is conducted by the potential investor in order to identify the company’s assets and liabilities, assess the company’s legal rights and overall commercial freedom to use its assets and evaluate the risks associated with the identified assets and liabilities that may ultimately cause the investor to fall short of the investor’s goals with respect to return on investment. Due diligence will cover more than just the company’s intellectual property rights; however, intellectual property rights are typically one of the biggest areas of concern for investors and the due diligence team will often include not only lawyers but also scientists and engineers working for the investor who have the requisite knowledge and experience to evaluate the company’s technology. The basic areas of interest, and required supporting documents for review, during the due diligence investigation of intellectual property rights include the following:

- ***Ownership of Intellectual Property:*** Relevant intellectual property assignments (including records showing the complete and correct chain of title from the original owner to the company); evidence showing that the relevant assignments have been recorded or filed with the relevant authorities; consulting and employment agreements; official filing receipts for all registrable forms of intellectual property; examination reports and evidence of grant for patents, trademarks and designs; and evidence showing payment of all official fees.
- ***Validity of Intellectual Property:*** Freedom to operate reports; evidence showing the date and source of inventions (e.g., work books, invention disclosure statements and other records documenting the creation of the intellectual property); and any documents showing any claims and disputes that may affect the grant or validity of the intellectual property (i.e., opposition during the patent application process).
- ***Rights/Obligations Attached to Intellectual Property:*** All agreements in relation to the creation and use of the intellectual property including license agreements, confidentiality agreements, collaborative research agreements, government grant and other funding agreements and manufacturing and distribution agreements.

§5 Understanding the competitive landscape

⁴ For further discussion, see R. Razgatitis, *Valuation and Pricing of Technology-Based Intellectual Property* (New York: John Wiley & Sons, 2003).

The valuation of the company's intellectual property assets described above depends on a number of factors, notably the competitive landscape in the markets where the assets would be deployed and the relative freedom of the company to exploit the intellectual property rights associated with the assets. Assessing the competitive landscape allows the company to identify the strengths and weaknesses in the intellectual property rights portfolio of competitors, anticipate future developments in research and technology acquisition activities by competitors and identify potential barriers to the company's strategy that are embedded in the intellectual property rights portfolio of competitors. All of this information is crucial in setting the priorities for the company's intellectual property rights strategy and estimating the time and financial resources that will be needed in order to meet competitive challenges.

One of the best ways to gain a better understanding of the competitive landscape for the company's intellectual property assets is a so-called "freedom to operate" search, sometimes referred to as a "right to practice" analysis, which seeks to demonstrate that a proposed product does not infringe any in-force patents.⁵ If that is the case, the company likely has significant latitude on how it can commercialize the product. At the same, if the search determines that infringement does exist, the company will be aware of it in advance and can make the appropriate business decisions about its intellectual property strategy in relation to the proposed product (e.g., purchasing or licensing blocking patents, redesigning the product to avoid infringement or trying to invalidate the blocking patents). While companies can, and often do, conduct product clearance and/or product infringement searches before proceeding too far in the product development process, a freedom to operate search is much broader and also considers expired patents and publicly available documents, which are in the public domain and provide a safe harbor for a product and valuable information on potentially useful technologies that are no longer restricted by the patent rights of others. The freedom to operate search extends into foreign jurisdictions and thus identifies where in the world the technology in the product can be used or protected.

While the risk of infringing the intellectual property rights of third parties is the main reason for conducting a freedom to operate search, the information gathered from potentially blocking patents provides several opportunities to companies. For example, since patent rights are territorial and have a limited duration, companies may find that the technology has not been protected in foreign markets or that protection will lapse in the near future. Using this information a company may decide to enter a different market initially, which may turn out to be just as profitable as the market that was blocked by existing patent rights, and/or delay introduction of the product until the blocked patent expires (or negotiate a license at a reduced rate since the short life of the blocking patent has reduced its value). The company may also find that the scope of the issued patents,

⁵ Portions of the discussion of freedom to operate searches in this section are adapted from IP and Business: Launching a New Product: Freedom to Operate, WIPO Magazine, 2005(5), http://www.wipo.int/wipo_magazine/en/2005/05/article_0006.html [accessed October 12, 2016] and L. Thayer, "When Is a "Freedom to Operate" Opinion Cost-Effective?", Today's General Counsel (February/March 2013), <http://www.finnegan.com/resources/articles/articlesdetail.aspx?news=14c90ae5-514d-4473-9b8a-ce88ef9ae85a> [accessed October 12, 2016].

which is determined by interpreting the claims in the application and other information, is narrow enough to provide the company with a viable path to work around the patent without fear that the patent holder would prevail in a patent infringement suit. Finally, a significant number of issued patents will lapse prior to the end of their term due to the failure of the patent owner to pay required maintenance fees.

As noted above, even if the freedom to operate search does uncover existing patents that might be an obstacle to the company, the process serves as a catalyst for generating ideas to clear the path forward and allow the company to proceed with its product development plans. Of course, if the company reasonably believes that the blocking patent can be declared invalid then patent invalidation proceedings may be launched. Companies may also change their design and development plans to “invent around” the blocking patent. However, both of these approaches can be costly and time-consuming and many companies decide to make an offer to purchase the blocking patent or obtain a license from the patent owner to use the patented technology for specified purposes, in specified markets and for a specified period of time. Compensation can take the form of a fixed licensing fee or royalties based on the licensee’s success in exploiting the licensed technology. Another way to structure such an arrangement would be for the company to license some of its own intellectual property to the owner of the patent (i.e., cross-licensing); however, this avenue will only be open if the company has built its own portfolio of patents that are well protected and valuable to potential licensing partners. Groups of companies with rights to use, and a collective interest in practicing, related technologies may voluntarily choose to put their patent in a “patent pool” that all participants can use, a solution that reduces the risk of litigation and facilitates the development of standard technological specifications.

If no blocking patents are identified during the freedom to operate search, the company obviously has the opportunity to proactively protect its technology by going ahead and filing its own patent application provided that the company’s technology meets the criteria for patentability. The key consideration at this juncture is deciding whether a patent, with its required public disclosures of the inner workings of the invention, will provide more valuable protection than treating the invention as a trade secret. Another strategy that may be used is “defensive publishing”, which involves disclosing an invention in public, often in technical journal, so that no other party can claim patent or trade secret protection and everyone is free to operate using the disclosed invention. This approach may be used when the company believes seeking a patent will be too costly or that there is a risk that a patent will not be issued due to the failure to meet the criteria for patentability. Defensive publishing generally makes sense only for minor inventions and not for major breakthroughs that are likely to be core elements of the company’s technological portfolio. The company should also recall that while a patent creates exclusionary rights (i.e., others cannot practice the patented invention without the consent of the patent holder), it does not necessarily provide the company with all the intellectual property rights it will need to fully commercialize its projected finished product and the company will need to consider whether it will need to use technology patented by others. If so, it will need to combine its own patent prosecution activities with offers to purchase or license existing patent rights, as discussed above. Finally, patent rights alone may not

be sufficient to commercialize a product if the product is subject to pre-sale governmental licensing or other approval requirements.

While there are a number of advantages to performing a freedom to operate search whenever the company is considering investing resources in developing a new product, the reality is that such searches can often be time-consuming and costly. Thayer suggested that companies should consider the following factors when deciding whether or not to commission a comprehensive freedom to operate search:

- ***The Value of the Product and the Amount of Investment:*** The potential value of the new product to the company, in terms of revenues and profit margins, should be considered since products with high volumes or margins are most likely to lead to large damage awards in patent infringement suits. Potentially valuable products warrant the extra expense of a freedom to operate search and the same applies to products that will require a significant investment relative to the company's overall research and development budget. A freedom to operate search early in the process allows the company to make changes in the design of the product before it becomes too difficult or costly.
- ***Whether Similar Products Have Sparked Litigation:*** Sophisticated search methods for patent litigation make it possible to identify markets and technologies that are most likely to trigger opposition in the form of infringement suits. Companies preparing to launch new products in these markets should consider doing a freedom to operate search to get a handle on the litigation risk they are confronting. Even if the product is not in a high-risk market, a search should be considered whenever the company is planning on an expensive and highly visible product launch, since competitors may want to move to slow down the company's momentum.
- ***The Competitive Community for the Product:*** A scan should be made of the potential markets for the new product to assess the level of potential competition and the incentive for other companies to move aggressively to impede the company's efforts to introduce the new product. Consideration should not be limited to commercial competitors but should include universities and other research organizations that either have existing patents that are problematic or are likely to seek new patents that may cause issues for the company farther down the development road.
- ***Sources for Technology to Be Used in the Product:*** If the company anticipates that some of the technology for the new product will be sourced from an outside party, the search should be expanded to include the risk that the outside party's right to use and license that technology will be challenged. In the event of such a challenge, the company may find itself made a defendant to the litigation. While indemnification from the outside party may be available, enforcement of such provisions may be problematic, particularly if the indemnifying party is in a foreign jurisdiction, and even if the provisions are valid the company will almost certainly face delays and increased costs in getting its own product to market.
- ***Business Objectives and Risk Tolerance:*** Freedom to operate searches can be expensive and only make sense if the company is prepared to take the results seriously and change course if necessary if the result indicate that the company will

have trouble achieving its business objectives and/or the level of risk in proceeding with the product launch is too high. In some cases, a new product is so important and potentially valuable that the company will proceed even when it is clear that an infringement suit will be forthcoming. In that scenario a search may be unnecessary. In most instances, however, a search is a valuable tool for providing management with an expanded set of options for constructing the best intellectual property strategy for the particular product launch.

§6 Formulation of the intellectual property rights strategy

Once all of the steps described above—identifying the business goals and objectives of the company, auditing and valuing the company’s existing intellectual property rights, scanning the competitive landscape and assessing the company’s freedom to operate with respect to projected product development activities—have been completed, it is time to actually formulate the company’s intellectual property rights strategy. At this point, the company should have sufficient information to understand which intellectual property rights are core to the company’s business (the “core IP”), which intellectual property rights are no longer aligned with the company’s business goals and objectives (the “surplus IP”) and what intellectual property rights the company lacks but needs in order to pursue and achieve its future strategies (the “IP gaps”). Information regarding the technical and legal strengths and weakness of the intellectual property rights in each of these categories should also be available as a guide for the tactical steps that the company might take in executing its intellectual property rights strategy.

In general, intellectual property rights strategies can be distinguished between offensive and defensive.⁶ Offensive strategies focus on vigorously defending the company’s existing core IP against infringement by third parties and on investing the necessary resources to acquire and protect the technology and associated rights necessary to fill any IP gaps. Companies with high quality intellectual property rights in their core IP generally prefer an offensive strategy; however, such a strategy, which includes building protection sufficient to deter competitors from seeking to design around the company’s patents and other intellectual property rights, is expensive and requires sufficient information about the company’s product and services to ensure that all steps are taken to perfect and protect the company’s rights.

In contrast to an offensive intellectual property rights strategy, a defensive strategy focuses on take steps to move the business with forward with running into obstacles and risks raised by the existing intellectual property rights of third parties. Elements that are typically included, or at least considered, for a defensive intellectual property rights strategy include the following:

- Obtaining a license to exploit any blocking intellectual property;
- Designing around the blocking intellectual property;

⁶ Portions of the discussion in this section regarding offensive, defensive and global intellectual property rights strategies are adapted from Intellectual Property Manual for the Engineering Team (Brisbane, Australia: Engineers Australia, 2013), 28-31.

- Altering the specifications of the company's products/services;
- Releasing the company's products/services in stages;
- Developing or acquiring an intellectual property portfolio that can be used as a 'bargaining chip' for cross-licensing purposes;
- Opposing the rights of the blocking intellectual property;
- Implementing a strategy of "defense publishing", as described above, to prevent competitors from locking up ownership rights in intellectual property the company may wish to use in the future;
- Forming an alliance with other industry participants to fend off monopolistic rights in intellectual property that all alliance members would like to be able to use;
- Entering into joint ventures and other types of strategic alliances to secure rights to use important intellectual property rights of venture/alliance partners;
- Transferring or reducing the consequences of potential risk by contractual terms (e.g. contractually limiting the types/quantum of liability);
- Securing intellectual property insurance.

The intellectual property strategies of most companies typically have both offensive and defensive elements and the challenge is to find and maintain the appropriate balance as competitive conditions change and the company's priorities change along with them. For example, if the company is able to develop a strong core IP position through aggressive offensive techniques it is likely to attract attention from competitors claiming that the company is encroaching on their rights. The result may be a counterattack by competitors that will cause the company to shift toward a more defensive strategy, at least for the time necessary to preserve and protect the strong position it had attained. All companies must also continuously strive to close any IP gaps that will prevent them from developing new products or services necessary for them to remain competitive. Finally, companies with surplus IP may be able to wring out some additional value through licensing or outright sale of the intellectual property rights that are no longer needed.

When companies are engaged in (or looking to engage in) significant sales and/or manufacturing activities in foreign markets the intellectual property rights strategy should take into account additional issues:

- ***Is strong intellectual property protection available for the company's technology, products and services in the foreign market?*** Each country has its own intellectual property laws, and enforcement profile, and advice from local experts should be sought to determine whether meaning protection for the company's intellectual property rights will be available.
- ***Are the company's branding strategies protectable in and appropriate for the foreign market?*** An analysis should be done to determine whether the company's existing trademarks or brands can be protected in the foreign market and whether they conflict with any existing marks or brands. Even if the company's trademarks can be registered, enforcement is a major problem in many foreign countries. The company should also determine whether its branding strategy is appropriate in light of local language and culture.

- ***When planning to manufacture products in a foreign country, does the company have sufficient freedom to operate in that country?*** Especially when the company is planning to move a significant amount of its manufacturing activities outside of its home market, a freedom to operate search in the proposed foreign manufacturing country should be conducted following the steps outlined above.
- ***Is there a significant risk of “parallel importation” that will damage the company’s sales of products in its home market or other foreign markets?*** Parallel importation is the importation and distribution of goods by someone other than the authorized dealer in a “grey market”. The parallel importer typically purchases the goods in one country at a low price and then imports and sells those products in a second country at a price above what the importer paid but still well below the price that would normally have been charged in the second country. The risk of parallel imports needs to be considered when licensing intellectual property rights to a third party for exploitation in a particular territory or when manufacturing products in another country.
- ***Can applicable industry standards be satisfied while manufacturing products in a foreign country?*** When manufacturing products in a foreign country for local sales in that country, consideration must be given to ensuring that the finished products comply with applicable industry standards in that country, which may differ from those in the company’s home market. At the same time, if the products to be manufactured in the foreign country will be imported back into the company’s home market for sale, the contract with the foreign manufacturer must include covenants that the products will meet applicable industry standards in the company’s home market.

§7 Implementation of the intellectual property rights strategy

Once the intellectual property rights strategy has been decided upon attention turns to implementation.⁷ Implementation requires the creation of an overall intellectual property management framework for the allocation of resources and development and administration of systems and processes to keep track of the company’s intellectual property assets and execute appropriate strategies for acquisition, commercialization and protection of existing and new assets. The framework should include an intellectual property rights policy and a specific implementation plan. The purpose of the framework is to align policies relating to management of intellectual property rights with the company’s core functions and goals, provide guidance to managers and employees on how to make decisions regarding the management and use of intellectual property assets, increase awareness of the importance of intellectual property rights throughout the company and disseminate and encourage the use of best practices regarding the management of intellectual property rights. The framework should be reviewed and approved by the company’s board of directors and implementation should be overseen by a member of the company’s executive team. The progress of the initiatives included in

⁷ Portions of the discussion in this section regarding implementation of the intellectual property rights strategy are adapted from Intellectual Property Manual for the Engineering Team (Brisbane, Australia: Engineers Australia, 2013), 32 and 112-121.

the framework should be monitored carefully to assess whether the strategy is successfully supporting the company's business goals and objectives.

An effective intellectual property management framework will include procedures for reporting of innovations by employees so that the company can make timely and informed decisions about how to protect the intellectual property associated with those innovations. However, while reporting is important, and will generally be required under agreements between the company and its employees, the intellectual property rights strategy should look inward to embed a strong culture of creativity throughout the workplace. Senior management should emphasize support for creative thinking and taking reasonable risks during research and development activities. Successes, such as new inventions or creation of groundbreaking branding strategies, should be celebrated and participating employees should be rewarded with financial bonuses, public announcements, certificates, gifts and career development opportunities.

As mentioned above, the intellectual property management framework begins with an intellectual property policy that sets out the principles provide the foundation for how the company manages its intellectual property assets. Developing a policy begins with researching all the relevant information and continues with preparation and distribution of a draft of the policy prior to final approval by the board of directors. In order to develop a policy that is tailored to the company's particular situation, extensive research should be done that includes the following⁸:

- Collecting and reviewing all documentation that defines and describes the company's overall mission and business objectives;
- Collecting and reviewing all current policies that may be relevant to the management of intellectual property assets, such as policies relating to privacy, software use, e-mail use, security, recordkeeping, public disclosure and confidentiality polices;
- Collecting and reviewing all standard documents that deal with intellectual property assets, such provisions in employee agreements regarding ownership of intellectual property assets and protection of confidential information, standard contracts used to engage contractors, policies and procedures regarding reporting of inventions and maintenance of records of development of inventions;
- Compilation of a list of all types of intellectual property assets commonly developed, acquired or dealt with by the company, and the relative importance of each of these types of assets to the company; and
- Consultations with all relevant officers, managers and employees of the company who may be able to provide insights and experience regarding the company's existing management practices relating to its intellectual property assets and ideas for improvement of those practices.

Once the information has been collected and analyzed, the policy can be drafted. In general, an intellectual property rights or assets policy should cover each of the following principles and topics⁹:

⁸ Id. at 114.

⁹ Id. at 114-118.

- **Policy Objective:** It is customary to begin policies with a statement of the company's overall mission and business goals and a specific description of how creation, protection, management and exploitation of the company's intellectual property assets are important for achieving those goals. For example, for companies dedicated to success based on continuous innovation and creativity, the need for strong intellectual property rights should be obvious. The policy should also explain the role that it plays in the company's intellectual property management framework (e.g., guidance on best practices and procedures that will be established in an implementation plan).
- **Scope:** The policy should make it clear that the policy applies not only to executives, managers and employees of the company but also to contractors, visitors to the company's facilities, volunteers and outside business partners. While some policies limit the scope to certain types of intellectual property rights, the most common approach is for the policy to cover patents, trademarks, copyrights, trade secrets, designs and other recognized forms of rights, both domestic and foreign.
- **Description of Nature and Forms of Intellectual Property Rights:** Policies typically include summaries of the key characteristics and associated legal issues of each of the different forms of intellectual property rights covered by the policy. In cases where a particular form of intellectual property right, such as patents, is the most valuable to the company more attention will be paid to the description of that form; however, it is important for readers to have at least a basic understanding of all of the forms.
- **Procedures for Identification and Reporting of Intellectual Property Assets:** The company should have conducted an intellectual property rights audit while developing its strategy and should have a comprehensive record of current intellectual property assets; however, this record needs to be updated and the policy should cover the procedures that employees are expected to follow in order to identify potentially valuable intellectual property assets and report their findings to the appropriate decision makers within the company who can determine how best to protect and exploit the assets. Companies often appoint a designated intellectual property officer to whom the reports should be made and create an intellectual property rights committee to evaluate each new asset. The format for reporting, such as invention disclosure forms, should also be mentioned in the policy and elaborated on further in the implementation plan.
- **Statement Regarding Ownership of Intellectual Property Assets:** The policy should describe applicable legal and contractual standards regarding ownership of intellectual property assets as they apply to each class of persons falling within the scope of the policy. For example, employees should be reminded that the company will assert ownership rights in all innovations and proprietary information they create during their term of employment. If the company is willing to cede some portion of the ownership rights to employees, or allow them to share in revenues generated by commercialization of their innovations, the terms and conditions of the arrangement should be described in the policy.
- **Guidance on Protection of Intellectual Property Assets:** The policy should emphasize the importance of protecting the company's intellectual property assets, such as taking care to preserve the confidentiality of trade secrets, and the consequences to the company and involved employees of failure to take the necessary

precautions. The policy should obligate all parties subject thereto to adhere to specific guidelines on intellectual property protection that may be issued from time-to-time under the implementation plan. The policy should also make it clear that employees are expected to require outside parties to enter into confidentiality agreements approved by the company's legal counsel before disclosing any trade secrets of the company to such parties.

- ***Procedures for Ongoing Management of Intellectual Property Assets:*** The policy should outline the procedures established for ongoing management of the company's intellectual property assets including regular audits of the assets and the protection program, continuous assessment of previous decisions regarding protection and exploitation of the assets and, as necessary, decisions regarding the best strategy for disposing of surplus intellectual property.
- ***Valuation of Intellectual Property Assets:*** While quantitative and qualitative valuations of the company's intellectual property assets are generally left to the decision makers in the area, the policy should provide a basic summary of the factors that go into the valuation process so that employees have a better understanding of why a particular asset may be especially valuable to the company.
- ***Commercial Exploitation of Intellectual Property Assets:*** The policy should describe the most common strategies used by the company to commercially exploit its intellectual property assets (e.g., licensing, contribution to a strategic alliance etc.) and the issues that are considered when structuring any arrangement with an outside party relating to intellectual property. This policy should discuss the procedures that should be followed, and the approvals needed, for any decision regarding commercialization of the company's intellectual property assets.
- ***Recognition of Employee Contributions:*** As discussed above, companies generally claim full ownership rights in intellectual property assets developed by employees during the scope of their employment; however, it is common to establish programs to recognize employee contributions as a means for motivating them to develop new innovations and positively contribute to the company's intellectual property rights strategy. The policy should explain any employee recognition program including bonuses, gifts, certificates or professional development opportunities.
- ***Conflicts of Interest:*** Intellectual property is like any other asset of the company and should be managed and used in a manner that is consistent with the fiduciary duties owed by officers, managers and employees to the company. The policy should make it clear that guidelines regarding actual or potential conflicts of interest included in other company policies apply to management and exploitation of the company's intellectual property assets and that, for example, employees will be required and expected to disclose any financial interest in a potential licensee of the company's intellectual property when a licensing arrangement is being considered.

The intellectual property policy generally goes through several drafts and should not be finalized until representatives of all impacted departments and business units have had an opportunity to comment. The resources of the company, and the specific intellectual property assets that are most important to the company, will determine how long the policy adoption process takes and the emphasis of the policy itself. The policies of larger companies tend to be more comprehensive and smaller companies may not have the time

for a lot of research and internal investigation and will instead focus on a handful of specific issues appropriate to the company's stage of development. Regardless of the size and scope of the policy, it should be formally vetted and approved by the board of directors, widely publicized throughout the company by the senior executives and supported by education and training initiatives to ensure that everyone understands their specific obligations and the general legal framework for intellectual property assets.

The second key element of the intellectual property management framework is an implementation plan that describes the systems, processes and procedures that need to be established in order to effectively implement the intellectual property policy and provide straightforward guidance for everyone in the organization as to how they can recognize and fulfill their duties and obligations with respect to management of the company's intellectual property assets. The process of developing an implementation plan should begin with the company's existing resources and systems, many of which should already be addressing relevant intellectual property management issues¹⁰:

- **Asset Management Systems:** The company's asset management systems should be reviewed to ensure that the company's intellectual property assets are included in the asset register and included in the company's financial and annual reports. The implementation plan should include procedures for making sure that new intellectual property assets are reported to the keepers of the asset management system for inclusion in the register and that the register is regularly updated as the company conducts intellectual property audits.
- **Risk Management Systems:** Risks relating to the protection, management, use and commercialization of the company's intellectual property assets must be incorporated into the company's risk management systems. For example, contracts with third parties must include appropriate provisions relating to warranties and indemnities, limitations of liability and insurance. In addition, the company should obtain intellectual property insurance and secure expert advice from legal counsel on intellectual property issues as the need arises.
- **Contract Management Systems:** The contract management system of the company should include guidelines on provisions in the company's key contracts relating to intellectual property issues and procedures for review and approval of intellectual property contracts. For example, employment, consulting and research collaboration contracts should be reviewed to ensure that they adequately protect the ownership rights of the company. When contracting with outside parties for research services the agreement should address ownership rights to intellectual property created during the project and management and protection of such rights, progress and reporting requirements relative to work on the project, the personnel who will be involved with the project, the budget and timetable for the project and the company's rights with respect to terminating the project and indemnification from the outside party. Templates for standard contracts should be prepared with appropriate provisions on intellectual property issues, including alternative provisions for various types of

¹⁰ Id. at 119.

transactions and guidelines describing and explaining the company's preferred bargaining position on such provisions.

- **Financial Approval and Budgeting Systems:** The costs of developing, acquiring and managing the company's intellectual property assets, including staff resources that need to be devoted to the implementation plan, need to be included in the company's budgeting systems and procedures need to be in place for reviewing and approving new investments in projects focusing on development of intellectual property assets.
- **Recordkeeping Systems:** Part of the company's recordkeeping systems should be a register of the company's intellectual property assets and supporting documentation that covers the entire process of creating and developing the assets or acquiring the rights to use such assets from third parties. Procedures should be established for creating and transferring records for future development and other acquisition of intellectual property assets to the central recordkeeping repository of the company.
- **Human Resources Management Systems:** Companies should have agreements with all employees regarding ownership and protection of intellectual property assets. In addition, programs should be implemented to recognize and reward employees who contribute to the development of intellectual property assets and motivate employees to support the company's innovation initiatives. Training should also be provided to employees regarding intellectual property management so that they understand their roles and have requisite education to make informed decisions.

If the company has all of the systems mentioned above in place then the implementation plan should focus on making sure that intellectual property management concerns are addressed in those systems. If not all of the systems mentioned above are in place, they must be created as part of the implementation process. The implementation plan itself should address each of the following overriding issues¹¹:

- **Objective:** The implementation plan generally begins with a statement of the objectives and goals of the plan, which is to describe the operational practices and procedures that are being created in order to implement the company's intellectual property policy.
- **Strategies for Implementation:** The implementation plan should reference the various processes and systems described above and explain how they will be changed to facilitate achievement of the key principles in the intellectual property policy (i.e., identification and reporting of intellectual property assets; perfection of ownership rights in such assets; protection of such assets; ongoing management of such assets; and commercial exploitation of such assets).
- **Resources:** The plan should describe the various resources of the company that will be used to execute the implementation plan including existing and new processes and systems, senior management time and support from various departments and business units.
- **Authority and Responsibility:** The plan should describe the organizational structure for the company's intellectual property management framework including identification of the persons responsible for making various decisions regarding the

¹¹ Id. at 120.

intellectual property assets, their scope of authority and the procedures to be followed for reporting information to such persons.

- **Awareness:** The plan should include activities and events, including training programs, to promote awareness of the importance of intellectual property assets and the steps that all persons in the organization are expected to take to protect such assets. Suggestions include communicating the plan to all employees, training on the nature of intellectual property rights and how to identify potential intellectual property assets and development of policies and procedures that serve as guidelines for employee actions.
- **Sources of Expert Advice:** The plan should provide information on how managers and employees can access expert advice on the often complex questions that can arise with respect to identification, reporting, managing, protecting and commercializing intellectual property assets. Potential sources include in-house attorneys and non-legal executives and managers with experience in dealing with technology and intellectual property issues and outside advisors such as the company's law firm and marketing consultant.
- **Review Mechanisms:** Provisions should be included in the plan for regular review of the effectiveness of the company's intellectual property management framework using objective metrics and inputs from all involved departments and business units. The results of the review should be presented to the board of directors with recommendations for modifications to the plan.

The implementation plan supports the policy and is intended to be a comprehensive source of guidance for everyone in the organization that will likely be consulted frequently. As such, the plan should be carefully drafted and reviewed by representatives of all departments and business units to be sure that it addresses the issues that come up in day-to-day activities. Failure to take the time to develop a clear implementation plan will result in confusion and will ultimately have a negative impact on the company's efforts to appropriate the full value of its intellectual property assets.

§8 Rule of board of directors in overseeing intellectual property rights strategy

As noted above, intellectual property is a valuable asset of the company and creates both risks and opportunities. Since intellectual property is a valuable asset of the company, the board of directors has a fiduciary duty to the company's stockholders to preserve and manage the company's intellectual property in a manner that conforms to the duty of care. In order to fulfill their duties, directors must inform themselves prior to making any business decision relating to the company's intellectual property assets of all material information reasonably available to them. Directors must proactively seek adequate information and educate themselves so that they can independently assess the quality of the information and not simply rely on the opinions of others. Educational activities should include regular briefings by senior management on the scope of the company's intellectual property rights portfolio, the impact of intellectual property on the company's markets and the effectiveness of the company's intellectual property rights strategy (e.g., budgets and reserves; assessments of the proprietary position of key products and services, as well as 'freedom to operate' issues; a competitive analysis of the company's

intellectual property position and enforcement by competitors). Directors must also have access to training on the nuances of intellectual property law including important legal developments and trends in the company's industry, and such training should be provided by experts from the company's outside law firm. The records of board meetings should reflect the actions taken to ensure that the members are able to carry out their duty of care with respect to the company's intellectual property assets.

References and Resources

The Sustainable Entrepreneurship Project's Library of Resources for Sustainable Entrepreneurs relating to Technology Management is available at <https://seproject.org/technology-management/> and includes materials relating to the subject matters of this Guide including various Project publications such as handbooks, guides, briefings, articles, checklists, forms, forms, videos and audio works and other resources; management tools such as checklists and questionnaires, forms and training materials; books; chapters or articles in books; articles in journals, newspapers and magazines; theses and dissertations; papers; government and other public domain publications; online articles and databases; blogs; websites; and webinars and podcasts. Changes to the Library are made on a continuous basis and notifications of changes, as well as new versions of this Guide, will be provided to readers that enter their names on the Project mailing list by following the procedures on the Project's website.