Intellectual Property (IP) Audit Tool Description

The Intellectual Property (IP) Audit Tool examines the operations of a company or organization to determine what intellectual assets exist and which ones should be protected. For those intellectual assets that should be protected, it also helps you determine how they should be protected: by patent, trade secret, trademark, copyright, industrial design, or another form of protection available in the jurisdiction of interest. The IP Audit Tool can be used to determine if any intellectual assets are IP that can create a temporary monopoly for the product or service under development, thereby creating a potential competitive advantage during the Launch stage.

What is an Intellectual Property (IP) Audit?

Intellectual property (IP) shows up as an intangible asset on the balance sheet. So, if for no other reason, identifying and documenting actual and potential IP assets literally increases the value of a company or organization. More importantly for our purposes, having control over critical IP can make it harder for people to copy the product or service you are developing. An IP Audit also indicates where you can cut the costs of NPD by leveraging intellectual assets already owned by the company or free to exploit because they are in the public domain and the company can leverage relevant know-how concerning their use.

WIPO provides useful IP-related tools and resources for businesses[1] including the WIPO IP Diagnostics tool available as a self-assessment tool that helps businesses identify their IP assets.[2] A WIPO webpage on IP audits[3] summarizes what you can learn from an IP audit:

- Identify existing and potential IP assets
- Identify coverage and gaps in protecting your IP assets
- Make sure you actually own the IP assets that are strategic to your business
- Uncover unused assets that cost your business money
- Identify under-utilized assets that can help you generate revenue
- Identify IP assets of third parties you might be using that create risk for your business

An IP audit should start with a comprehensive inventory of intellectual assets that are, or will be, used during NPD for the product or service being developed. Most of these intellectual assets can be protected, either as registered IP assets that are protected under statutory regimes such as patents, trademarks, copyright, or design protection, or as trade secrets that are managed within your company or organization according to applicable trade secret laws. Thus, an important function of an IP audit is to identify intellectual assets that can be, have been, or should be protected as registered IP assets or managed as trade secrets. An IP audit also reviews issues such as ownership and control that can affect how IP assets are used. Finally,

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[1] IP for Business, WIPO tools and resources for businesses available at https://www.wipo.int/sme/en/
[2] WIPO IP Diagnostics tool available at https://www.wipo.int/ipdiagnostics/en/index.html Users answer a series of questions about their current or planned business activities, and the tool generates useful user-specific reports about types of IP protection that may be available, as well as reports on IP-related employment issues, licensing, internationalization, and IP enforcement.
[3] Uncovering IP Risks and Potential: IP Audit, available at https://www.wipo.int/sme/en/ip-audit.html

an IP audit can help you identify opportunities to leverage your own IP assets for competitive advantage, market position, and revenue.

An intellectual asset that you can protect as IP can provide a competitive advantage for your NPD process. For example, if you developed a new or improved technology for a critical technical feature of your product or service and received IP protection in the form of a patent or utility model for the technology, then you will have control over a proprietary technology that may give you a temporary monopoly for the product or service you are developing, depending on the breadth of IP protection available. If you originally designed your product or service to use public domain technology, the blend of public domain technology and your proprietary technology may provide a competitive advantage.

Even without providing a competitive advantage, there may be good reasons to use public domain technology. In many fields, such as software applications, being the first to market is an important factor for successful market entry. Staying with software as an example, one reason companies may build an application using open-source software is that there is a large community of people competent with the software, which makes the product easier to use. The history of the spread of UNIX into commercial applications illustrates this point. Another example of open-source technology being important for product success because it provides ease of use even though it does not provide a competitive advantage is the ball and socket hitch used to tow trailers. It was invented and patented in 1915 and is still widely used.

How to find technologies and information in the public domain is discussed in Module II of the WIPO publication *Using Inventions in the Public Domain: A Guide for Inventors and Entrepreneurs* (2020) “Finding opportunities to leverage inventions and public domain knowledge”. Additional use of patent and web data to better leverage your IP audit results can be garnered by reading sections 5 and 6 of Module III of the WIPO publication “Reviewing what technologies are already in the market” and “Finding if there are available technologies you can exploit to identify market opportunities”.

Trade secrets provide another example of how IP assets can provide IP-based competitive advantage for your NPD process. The term “trade secret” refers to any information that derives economic value from not being generally known or ascertainable. The owner of valuable information can protect it as a trade secret by taking reasonable steps to meet the requirements for secrecy and limited access that are set forth in applicable trade secret law. When you protect valuable information about your product or service as a trade secret, for example information about critical technical features or improved performance, you gain a competitive advantage because others cannot copy you or deliver the same performance.

The IP Audit Tool provides a simplified approach that highlights technology, designs, methods, trademarks, trade secrets, and other intellectual assets that may be useful during NPD for the design or production of the product or service. Assuming you are first to sell this kind of product or service in your market, even if there are no patents protecting your production methods, your collection of intellectual assets (especially your protected IP assets) may extend your first mover advantage as others try to figure out how to copy what you are doing and break through the brand loyalty and goodwill you have hopefully attained.

Even a relatively simple product or service usually involves the use and creation of intellectual assets, some of which can be protected as IP assets. For example, if the product is a drink made with local ingredients and flavorings, the entity carrying out NPD for the drink should make an intellectual assets inventory. If the drink has been developed to have new and

surprising properties, for example if the drink recipe is used with a production process that delivers a protein-rich beverage that can be stored in a sealed container at room temperature for a year, then making the drink might be a patentable process, and the drink itself might be a patentable product. On the other hand, if the drink uses a secret recipe but relies on known methods of processing and blending ingredients, then trade secret protection of the recipe and associated know-how is probably the most effective way to protect the core intellectual asset of the NPD project. Trade secret is, after all, how the formula for Coca-Cola® is protected. And the NPD process for either kind of drink (patentable drink product/process, or drink recipe protected as trade secret) can involve trademark protection for the name and logo that indicate the source of the drink, copyright protection of labels and marketing materials, and design protection for a distinctive bottle shape. There may be intellectual assets created during the NPD process that are not part of the actual product or service being developed, such as an innovative way of filling the unique bottle shape used for the drink, or an innovative testing system for determining the chemical composition and quality of the drink, that may qualify for a patent or other protection.

The point of this example is that even in a seemingly low-tech business based on open-source (or public domain) ideas, methods and tools, there can still be a lot of IP. By systematically examining each part of the value chain related to the product, you tease out the intellectual assets and evaluate their value as IP assets.

If one hasn't already been conducted, an IP audit should be conducted once a preliminary design has been developed and completed by the beginning of the final design process. The objective of this audit is to determine what intellectual assets the company or organization can bring to bear to facilitate design.

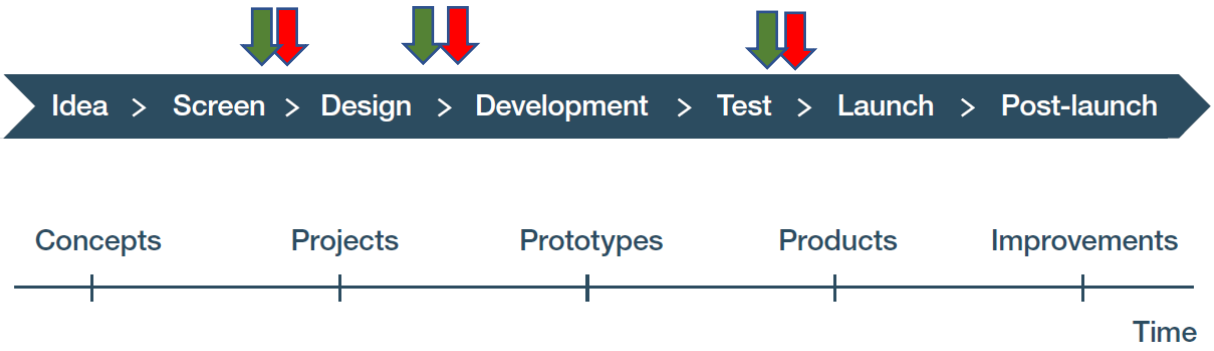

Figure 1: Stages and gates. The green arrow represents when the IP audit begins. The overlap of the green and the red arrows indicates the results are used as soon as the IP audit is complete. As Design (and Development) proceed, the IP audit is constantly revisited to see if new IP has emerged during those stages. A thorough review should also be conducted before the Launch stage to ensure nothing which may restrict competition or have marketing value has been missed, and determine which IP, if any, could be licensed without harming the competitive advantage of this or subsequent products and services.

It is worth noting that the IP Audit Tool may identify assets which can be licensed out without harming the competitive advantage of this or future products or the overall strategy of the company. For example, the brand name and trademark for your product or service might be licensed to another company making different products that consumers would associate with your product or service. The value of this licensed-out IP can relate to the goodwill and brand loyalty generated by the other company's products. For example, the farm equipment company John Deere licenses trademarks to toy and clothing companies that make products featuring John Deere's trademark color and logo(s). Some proprietary process technology may be

licensable without harming the entity that developed it, such as innovative bottle filling or quality assurance technology.

Recall the three main types of risk that Ron Adner describes in *The Wide Lens*[4]. Execution risk refers to the ability of your organization or company to actually conduct NPD. Adoption risk refers to whether the intended customer segments will actually buy the good and the intended end-users actually deploy it. Co-innovation risk refers to the ability of vendors, suppliers, and partners to provide what you need as part of your NPD and to conduct their own NPD if that is necessary to develop consumables or other essential goods needed to effectively deploy your good. The IP Audit Tool helps address execution risk and adoption risk.

An IP audit can address execution risk by indicating gaps in IP protection, or IP ownership issues that could impede execution if not addressed. Using patents and trade secrets you already own can reduce the cost of execution because the company or non-profit organization does not have to include developing or acquiring these tools or methods in its NPD. Further, by documenting how to use them (i.e. by creating manuals which can be protected by copyright), the cost of training others in their use can reduce execution risk.

Adoption risk can be reduced if trademarks are clever and favorably stick in people's minds. Think about how many times you have seen the registered trademark sticker "Intel® Inside". You know it refers to chips from a known source and it creates a sense of well-being related to the chips used in the machine. Protecting the bottle design, logo, and labels for a drink means competitors will have a harder time pretending their product is just like yours. Indeed, if they copy your IP-protected packaging you can get an injunction against them in most jurisdictions that prevents them from offering their drink for sale until they stop infringing your trademarks, copyright, and/or design rights in your packaging. In addition, an IP audit that shows how IP assets are owned or controlled could also show how those assets could be used in different ways to better meet customer wants and needs, perhaps lowering adoption risk.

How do you enter data in the IP Audit Tool?

The information for the IP Audit Tool comes from examining the results in the Value Chain Tool workbook for the product or service in NPD, and from asking all those involved in the company or organization to do the same. Using the IP Audit Tool, you will take an inventory of intellectual assets and classify them by the type of asset and ways of protecting such an asset. You will include remarks such as whether an asset was developed in-house; developed by an outside contractor as a work for hire; in-licensed from a third party who developed and protected the asset; or whether an asset was freely available as public knowledge, open source or shareware, or as a public domain invention. You can include remarks about ownership. Other features of the Tool will allow you to consider what kinds of protection are available and where, and what actions have been taken so far or need to be taken. Thus, the information you enter can show the extent of protection and the gaps in protection of intellectual assets. The IP Audit Tool can direct your attention to the opportunities that are provided, and the actions still needed, for leveraging these intellectual assets to support your NDP project and your entity.

[4] Adner R., *The Wide Lens: What Successful Innovators See That Others Miss*, Portfolio; Revised edition (June 25, 2013).

The workbook for this tool has only one spreadsheet, reproduced below in Figure 2.

Intellectual Property Audit						
Internal intellectual asset, classified by type of IP or other protection available	Was this intellectual asset acquired from a third party or developed in-house? Details - license, shareware, open source, public domain? Was it created for the company by an outside contractor?	How secured as IP or otherwise protected from theft and years of protection remaining	Importance of use in current goods: 1 (low) to 3 (high)	Current product/service life left in years	Future product/service and utility: 1 (low) to 3 (high)	General new product development utility: 1 (low) to 3 (high)
Inventive or innovative products or processes - Patents, utility models						
Designs - Industrial designs, design patent						
Creative materials - Copyright						
Trademarks, service marks						
Confidential information - Trade secrets						
Other intellectual assets - data, regulatory compliance, domain name, plant variety protection (plant breeders rights), plant patent, geographical indication						

Figure 2: IP Audit Tool blank spreadsheet

Begin by examining the Inputs tab from the Freedom to Operate Tool workbook, to review what you consider to be your benchmark technology. In the IP Audit Tool, you must determine if you own or have rights to the technology you are deploying in your product or service. By rights, we mean a legal right to use. You must also assess whether this right grants you the legal power to exclude others from using the technology in some geographic region(s), over some time period(s), and for some field(s) of use. A patent can provide such rights, and in some cases a license agreement may provide some exclusionary rights. The precise rights you have are an internal asset.

In the IP Audit Tool, identify intellectual assets involving a product, process, service, or technical modification and enter them in the first column of the spreadsheet under the heading entitled “Inventive or innovative products or processes - Patents, utility models” with one asset per row. List any associated patents, patent applications, or utility models for these assets. Figure 3 below demonstrates where such an entry goes into the spreadsheet for the Biofuels Example, for a core technology identified as “organism and mat” from the FTO Tool.

Intellectual Property Audit						
Internal intellectual asset, classified by type of IP or other protection available	**Was this intellectual asset acquired from a third party or developed in-house? Details - license, shareware, open source, public domain? Was it created for the company by an outside contractor?**	**How secured as IP or otherwise protected from theft and years of protection remaining**	**Importance of use in current goods: 1 (low) to 3 (high)**	**Current product/service life left in years**	**Future product/service and utility: 1 (low) to 3 (high)**	**General new product development utility: 1 (low) to 3 (high)**
Inventive or innovative products or processes - Patents, utility models						
Organism and mat that organism grows on.	Licensed from Sustainable Biofuels	Patents owned by Sustainable Biofuels in US, CA, AU, EP validated in major countires, (methods only in JP, KR, CN, IN, BR)	3	15	3	3
Organism kits for shipment and on-site use - Functional aspects of kit that contains the organisms, a means for keeping them alive in storage, and a unique system from measuring out just the right amount to insert into the biomass digester to make fuel.	Developed in-house	Pending US and PCT applicaton for patent	3	6	3	3
Software-driven controller system for remote operations, monitoring, maintenance, and repair	Software developed as a work-for-hire under a contract which specifies company owns all the IP in the software. Further modifications to implement as a controller system developed in-house.	Patent? Copyright? No application filed	3	6	3	3
Mini-refinery apparatus, improved function	Joint development by in-house team and vendors	Utility model- No application filed yet				

Figure 1: Inserting intellectual assets involving products or processes in the IP Audit Tool spreadsheet, from the IP Audit Tool workbook for the Biofuels Example.

Note that if you are using technologies disclosed in expired or abandoned patents that appear to be in the public domain, your IP audit cannot include non-proprietary open-source technology. Instead, such open-source technology can only be listed as an asset. If you have improvements on non-proprietary technology, including an expired or abandoned patent, the improvements are assets for which decisions must be made as to whether to seek to patent them and in which jurisdictions.

Next, go to the results in the Value Chain Tool workbook. Each tab has a spreadsheet for one primary activity in the value chain. Figure 4 below shows the “Inbound logistics” tab from the Biofuels Example workbook.

Inbound logistics

Parts, components, etc. (Requirements) / Risk: 3 High, 2 Medium, 1 Low	Average of risks	Design requirements/specifications concerns: Availability at affordable price	Efficiency/efficacy	Storage of inventory	Payment terms	Environmentally friendly	On-time delivery	Quality
Vats	1	1	1	1	1	1	1	1
Piping and valves	1	1	1	1	1	1	1	1
Sensors	2.1429	3	2	1	2	1	3	3
Organism	3	3	3	3	3	3	3	3
Mats for organism	2	2	2	2	2	2	2	2
Conveyers	1	1	1	1	1	1	1	1
Chippers/mulchers	1	1	1	1	1	1	1	1
Filters	1	1	1	1	1	1	1	1
Software for monitoring and maintenance	2	2	2	1	2	1	3	3
Telecom for data and remote control	1.2857	1	1	1	2	1	2	1
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Average risk for inbound logistics	1.5918							

Figure 2: Inbound logistics tab from the Value Chain Tool workbook for the Biofuels Example

Examining the results in the tabs of the Value Chain Tool workbook gives us clues as to where intellectual assets may be found. For example, on the “Inbound logistics” tab as shown in Figure 4 above, there is “Software for monitoring and maintenance” listed under the first column entitled “Parts, components, etc.”. If this software was developed as a work-for-hire under a contract which specifies your company or entity owns all the IP in the software, then you own a valuable suite of rights to that intellectual asset. Protection for software varies from country to country, so you should consider whether you want to pursue patent protection in countries where that is available and copyright the software in other countries that limit software patents. Then, look at how the software is used in your product or service to create intellectual assets such as software-driven controller systems for remote operations, monitoring, maintenance, and repair. Such a system may be patent-eligible in many countries, especially if the use of remote operations, monitoring, maintenance, and repair via call and satcom is new for biofuels mini-refineries. Even if it is not novel enough to qualify for a patent, it may still provide improvements to the technical function of the mini-refinery that could be innovative enough for a utility model in some countries. The software itself was entered as an intellectual asset, and the software-controlled system was also added as a separate intellectual asset in the IP Audit Tool spreadsheet (see Figure 5 below for the Biofuels Example).

Intellectual Property Audit

Internal intellectual asset, classified by type of IP or other protection available	Was this intellectual asset acquired from a third party or developed in-house? Details - license, shareware, open source, public domain? Was it created for the company by an outside contractor?	How secured as IP or otherwise protected from theft and years of protection remaining	Importance of use in current goods: 1 (low) to 3 (high)	Current product/service life left in years	Future product/service and utility: 1 (low) to 3 (high)	General new product development utility: 1 (low) to 3 (high)
Inventive or innovative products or processes - Patents, utility models						
Organism and mat that organism grows on.	Licensed from Sustainable Biofuels	Patents owned by Sustainable Biofuels in US, CA, AU, EP validated in major countires, (methods only in JP, KR, CN, IN, BR)	3	15	3	3
Organism kits for shipment and on-site use - Functional aspects of kit that contains the organisms, a means for keeping them alive in storage, and a unique system from measuring out just the right amount to insert into the biomass digester to make fuel.	Developed in-house	Pending US and PCT applicaton for patent	3	6	3	3
Software-driven controller system for remote operations, monitoring, maintenance, and repair	Software developed as a work-for-hire under a contract which specifies company owns all the IP in the software. Further modifications to implement as a controller system developed in-house.	Patent? Copyright? No application filed	3	6	3	3
Mini-refinery apparatus, improved function	Joint development by in-house team and vendors	Utility model- No application filed yet				
Creative materials - Copyright						
Manuals for operators	Collaboration of in-house team and professional technical writers. Get all rights assigned to company	Common law copyright; plan to register copyright (Life of author + 75 in US)	1	50+	1	1
Website and photos/videos	Mostly in-house. Get clearance for any outside materials posted; check links	Common law copyright; plan to register copyright (Life of author + 75 in US)	1	50+ or 25+	1	1
Software for remote operations, monitoring, maintenance, and repair	Software developed as a work-for-hire under a contract which specifies company owns all the IP in the software.	Common law copyright (depends on country) Decide whether to register.	3	As long as software is being used. Plan on		
Marketing materials	Collaboration of in-house team and consultants under contract that assigned all copyright to the company.	Common law copyright; plan to register copyright				

Figure 3: Intellectual Assets from the “Inbound logistics” tab of the Value Chain Tool entered into the IP Audit Tool workbook of the Biofuels Example.

Repeat this process until no more intellectual assets are found on the Inbound logistics tab. Then move onto the next tab and repeat the process again.

The “Operations” tab of the Value Chain Tool has good potential for know-how and trade secrets, as well as various kinds of processes that might be patent-eligible. Look at Figure 6 below for the Biofuels Example. Notice that the methods for producing and storing organisms on the table to the left were scored as having high risk potential. The way these risks are addressed may generate assets which may be protectable as IP. The know-how involved in addressing these risks (such as the optimal composition for the gel on which an organism is grown) can be protected through trade secret, even if the process is not patentable. Indeed,

sometimes trade secret protection is preferable to patent protection, because disclosure in a patent document would make it too easy for another entity to design around or to copy and infringe your patented technology secretly inside the other entity's factory walls.

Operations part 1

Risk: 3 High, 2 Medium, 1 Low	Average of risks	Production methods and facilities/equipment concerns: Spoilage/deterioration	Waste disposal	Labor availability at affordable price	Special fixtures or machinery	Energy consumption	Welding and other connections
Parts, components, etc.							
Vats	1	1	1	1	1	1	1
Piping and valves	1	1	1	1	1	1	1
Sensors	1.5	1	2	2	1	1	2
Organism	2.3333	3	3	2	3	2	1
Mats for organism	1	1	1	1	1	1	1
Conveyers	1.1667	1	1	2	1	1	1
Chippers/mulchers	1.3333	2	2	1	1	1	1
Filters	1.3333	2	1	1	2	1	1
Software for monitoring and maintenance	1.1667	1	1	2	1	1	1
Telecom for data and remote control	1.1667	1	1	2	1	1	1
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Average risk for operations part 1	1.3						

Operations part 2

Risk: 3 High, 2 Medium, 1 Low	Average of risks	Outputs/product systems/major components: Mini-refinery hardware	Sensor system	Operations and maintenance module	Organism kit	Regulatory approvals and certification	User and remote operation manuals
Parts, components, etc.							
Vats	1	1	1	1	1	1	1
Piping and valves	1.5	3	1	2	1	1	1
Sensors	2	2	2	2	3	1	2
Organism	2.3333	2	2	2	3	3	2
Mats for organism	2	1	2	2	3	2	2
Conveyers	1.1667	1	1	2	1	1	1
Chippers/mulchers	1.1667	1	1	2	1	1	1
Filters	1.3333	1	1	2	1	1	2
Software for monitoring and maintenance	2.1667	2	2	2	3	2	2
Telecom for data and remote control	1.6667	1	2	2	1	2	2
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Average risk for operations part 2	1.6333						
Average risk for operations overall	1.4667						

Figure 4: Operations tab from the Value Chain Tool workbook for the Biofuels Example

User and remote operations manuals listed in the "Operations" tab are works of creation which could be protected by copyright. Note that in many countries, a common law copyright attaches to a creative work at the time it is made and therefore, it costs nothing to create a common law copyright. However, greater protection comes with registering creative materials for statutory copyright protection. The costs associated with registering a work for copyright are usually not high and must be weighed against the damage that can occur if the manual is copied by a competitor and the work is protected only by common law copyright.

Be on the lookout for innovative design approaches which can enhance ease of use or improve other aspects of the user's experience. These can give rise to multiple intellectual assets that can be protected as different types of IP. In Figure 7 below, the functional design of the organism kit, which contains the organisms, a means for keeping them alive in storage, and a unique system from measuring out just the right amount to insert into the biomass digester to make fuel, is included as an intellectual asset under "inventive or innovative products or processes" that could be patentable. If the kit package was designed with non-functional design features that make it distinctive in appearance, then the package design should be as an intellectual asset under "Designs – Industrial designs, design patent" as shown in Figure 7.

Intellectual Property Audit

Internal intellectual asset, classified by type of IP or other protection available	Was this intellectual asset acquired from a third party or developed in-house? Details - license, shareware, open source, public domain? Was it created for the company by an outside contractor?	How secured as IP or otherwise protected from theft and years of protection remaining	Importance of use in current goods: 1 (low) to 3 (high)	Current product/service life left in years	Future product/service and utility: 1 (low) to 3 (high)	General new product development utility: 1 (low) to 3 (high)
Inventive or innovative products or processes - Patents, utility models						
Organism and mat that organism grows on.	Licensed from Sustainable Biofuels	Patents owned by Sustainable Biofuels in US, CA, AU, EP validated in major countires, (methods only in JP, KR, CN, IN, BR)	3	15	3	3
Organism kits for shipment and on-site use - Functional aspects of kit that contains the organisms, a means for keeping them alive in storage, and a unique system from measuring out just the right amount to insert into the biomass digester to make fuel.	Developed in-house	Pending US and PCT applicaton for patent	3	6	3	3
Software-driven controller system for remote operations, monitoring, maintenance, and repair	Software developed as a work-for-hire under a contract which specifies company owns all the IP in the software. Further modifications to implement as a controller system developed in-house.	Patent? Copyright? No application filed	3	6	3	3
Mini-refinery apparatus, improved function	Joint development by in-house team and vendors	Utility model- No application filed yet				
Designs - Industrial designs, design patent						
Design of packaging for organism kits for shipment and on-site use. Non-functional features of distinctive packaging.		Design patent US; design registration 15 years	2	15	2	1

Figure 5: IP Audit Tool with intellectual assets from the “Operations” tab of the Value Chain Tool Biofuel Example.

Continue to examine all aspects of the “Operations” tab for potential intellectual assets. Then do the same for all the remaining tabs.

The “Marketing and sales” tab can also list or suggest intellectual assets. For example, the “Marketing and sales” tab for the Biofuels Example (Figure 8 below) suggests intellectual assets that include: marketing and advertising materials that could be protected by copyright; a company website with pictures and videos; trademarks that were developed to identify the source of all parts and packaging of the mini-refineries, and to create goodwill for the brand; and user manuals that have a marketing function.

Marketing and sales

Outputs/products/services	Average of risks	Audiences, messages, channels, etc. concerns: Direct sales website	Telephone sales	Sale engineers	Advertising	Trade and industry shows	Media coverage	Social media campaign	Articles in trade press	Distributors	Sales reps	Retail outlets				
Mini-refinery hardware	1	1	1	1	1	1	1	1	1	1	1	1				
Sensor system	1.5844	1	2	2	1	2	1	1	1	2	2	2				
Operations and maintenance module	1.5844	1	2	2	1	2	1	1	1	2	2	2				
Organism kit	2	1	3	3	1	2	1	1	1	3	3	3				
Regulatory approvals and certification	1	1	1	1	1	1	1	1	1	1	1	1				
User and remote operation manuals	1	1	1	1	1	1	1	1	1	1	1	1				
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Average risk for marketing and sales	1.5422															

Figure 6: Marketing and sales tab in the Value Chain Tool workbook for the Biofuels Example

Not all intellectual assets identified will need to be protected. Again, the “Marketing and sales” tab of the Biofuels Example Value Chain Tool workbook provides two such examples: regulatory approval documents and customer lists. These are placed in the “Other intellectual assets” category as shown in Figure 9 below for the Biofuels Example. Regulatory approval documents are listed in this category as they likely will be part of the public record once submitted. For the Biofuels Example, customer lists were entered in the “Other intellectual assets” category based on the reasoning that once a customer buys, they are unlikely to buy a competing product for many years, such that customer lists might not be valuable trade secrets for the mini-refineries NPD project, but they may fall under employee and contractor confidentiality agreements, which given their perceived low economic value or importance for NPD, is sufficient. In contrast, for an

NPD project when there will be multiple sales opportunities and many competitors, customer lists might be managed as valuable trade secrets.

Intellectual Property Audit

Internal intellectual asset, classified by type of IP or other protection available	Was this intellectual asset acquired from a third party or developed in-house? Details - license, shareware, open source, public domain? Was it created for the company by an outside contractor?	How secured as IP or otherwise protected from theft and years of protection remaining	Importance of use in current goods: 1 (low) to 3 (high)	Current product/service life left in years	Future product/service and utility: 1 (low) to 3 (high)	General new product development utility: 1 (low) to 3 (high)
Other intellectual assets - data, regulatory compliance, domain name, plant variety protection (plant breeders rights), plant patent, geographical indication						
Regulatory approval documents		Not protected	3	NA	2	3
Customer lists	In-house	Covered under employee and contractor confidentiality agreements	3	NA	2	3

Figure 7: IP Audit Tool with intellectual assets from the “Marketing and sales” tab of the Value Chain Tool Biofuel Example.

Finally, consider the “Support activities” in Porter’s Value Chain shown in Figure 10 below, namely: firm infrastructure, human resources management, technology development, and procurement.

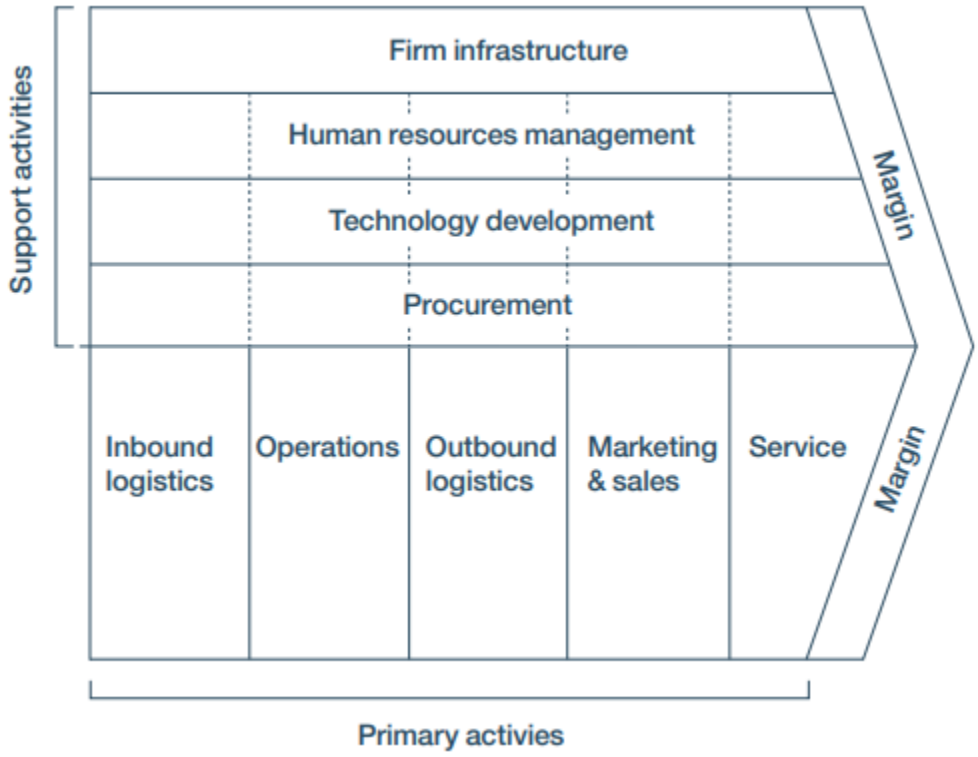

Figure 8: Porter's generic value chain[5]

[5] Source: Competitive Advantage: Creating and Sustaining Superior Performance by Michael E. Porter. Copyright 1985 Michael E. Porter. Reprinted with the permission of The Free Press, a Division of Simon & Schuster, Inc. All rights reserved.

The most likely place to find intellectual assets, which should be protected as IP, is in technology development, i.e. the equipment, hardware, software, procedures and technical knowledge brought to bear in the firm's transformation of inputs (raw materials) into outputs (finished goods).

How do you interpret the data in the IP Audit Tool and use it in your NPD process?

The IP Audit Tool workbook tells you about your intellectual assets at the time the tool was used. The results should identify your existing and potential IP assets, show current coverage and gaps in IP asset protection, indicate ownership and control of strategic IP assets, and point out assets that could help you generate revenue and goodwill. The results can show places where you need to take action to protect or develop these intellectual assets.

The IP audit results are very useful during the design process because, if there are IP assets that can be successfully leveraged and exploited for market entry and expansion purposes, then you want to make sure they are properly protected and incorporated into the product or service design.

The IP audit data is significant at the gate between the Design and Development stages as well. There it is reviewed to ensure all relevant IP has been documented and decisions concerning how best to protect it have been made and implemented. If IP is critical for the market launch and expansion strategy, lack of protection of that IP may delay moving into the Development stage or a later stage. It may be necessary to first file a patent application or take other kinds of protective measures to ensure against inadvertent disclosure of a patentable product, method, tool, material, design, manual, etc., before moving into the next stage.

Finally, it is prudent to revise your IP Audit one more time before launching a product or service to make sure you have protected every asset that should be protected. This is especially true if new inventions occurred during development or production engineering. In addition, the Freedom to Operate Tool should also be reviewed to ensure no new patents have been issued or applications with earlier priority dates exist.