

# Maximizing the Value Realization of IT Intellectual Property Commercialization

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**Abstract:** In today's technology-driven world, commercialization of information technology (IT) and intellectual property (IP) are driving innovations and economic growth. Many organizations struggle to realize the full value of their IT IP assets, which result in missed opportunities and low returns on investment of their IT IP assets. A comprehensive approach to enhance the value realization of IT IP assets by commercialization is presented in this article. The article begins by examining the significance of establishing a comprehensive IP management strategy that aligns with the organization's broad commercial objectives. IT IP strategies identify and protect valuable IT IP assets, which include patent filing, copyrighting, trademarking, and trade secrets that are needed for organizations to realize the value of its IT IP assets. Furthermore, fostering a spirit of ingenuity and a thorough understanding of intellectual property within the organization is vital for ensuring efficient intellectual property administration.

The article also assesses ongoing IP asset management, encompassing surveillance and enforcement tactics to safeguard IT intellectual property rights. Monitoring the market regularly aids organizations in spotting potential infringements and taking appropriate legal steps to safeguard their intellectual property. Continuous evaluation of the IT IP assets market value and reassessing commercialization strategies allows organizations to adapt to evolving market conditions and maximize long-term value realization.

**Keywords:** technology-driven world, information technology (IT), economic growth.

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## 1. INTRODUCTION

The concept of intellectual property refers to tangible assets that have been created by the human mind intelligence in a way that it possesses intrinsic value, that is protected by rights of ownership, patent, trademark, and/or trade secrets. A patent for practical uses covers the practical aspects of a claimed system, device, technique or composition of materials. The legal rights granted to protect creations, innovations, and inventions in the field of information technology are called IT IP. IT IP encompasses various forms, which include software, algorithms, databases, patents, brand names, rights to reproduction, and trade secrets. The result of extensive research, development, and technical expertise makes these IP assets extremely valuable.

In the contemporary technological environment, the commercialization of IP in the field of IT has emerged as a catalyst for innovation and economic growth. Organizations invest significant resources in developing cutting-edge IT solutions, but many struggles to realize the full value of their intellectual property assets. This results in missed opportunities and low-performing returns. To maximize the economic benefits of IT IP, licensing is crucial for businesses to exploit their intellectual property, gain a competitive edge, and unlock fresh revenue streams. Strategic IP management, tailored commercialization strategies, cross-functional collaboration and ongoing asset management are some of the things that it requires.

Successful IT IP commercialization is based on strategic IP management. The framework for managing intellectual property should be aligned with the main business goals. This involves securing and safeguarding valuable IT intellectual property through effective legal tactics, such as application filings, intellectual property rights, brand names, and trade secrets. A culture of innovation and IP awareness within the organization is also essential for effective management of these valuable assets.

Continual efficient IP asset management is essential for safeguarding and maximizing the worth of IT IP assets. Organizations must constantly monitor the competitive landscape to identify potential infringements and take appropriate

legal actions to safeguard their intellectual property rights. Moreover, regularly evaluating the market value of IT IP assets and reassessing commercialization strategies allows organizations to adapt to evolving market conditions and maximize long-term value realization.

### IT IP Management Strategy

IT IP management strategy should align with the organization's broad commercial objectives. The strategy should identify and protect valuable IT IP assets which include patents, trademarks, copyrights, and trade secrets. For organizations to realize the value of its IT IP assets, these assets need to be formally registered/filed with a legal authority such as the US Patent Office or the Saudi Authority of Intellectual Property. The following are descriptive definition of each type of IP assets:

**Patents:** Patents protect inventions, granting exclusive rights to the inventor for a limited period. They cover new and useful processes, machines, compositions of matter, or improvements thereof. Patents provide the right to prevent others from making, using, selling, or importing the patented invention without permission. Below are more insights on what can be patented and what cannot be patented:

#### What Can be Patented?

- **Process/Method/Technique:** A method, operation, or series of actions intended to achieve some end or result. A process is a way of doing something. If the process is patentable, the result of that process should be useful.
- **Machine/Device/Article of Manufacture:** A device or apparatus consisting of fixed or moving parts that work together to form some function.
- **Composition of Matter:** A patentable compound of material composed of two or more different substances; a product containing two or more substances resulting from chemical union or from mechanical mixture.

#### What Cannot be Patented?

- **Laws of Nature:** Natural principles or natural phenomena.
- **Business Methods/Software:** This is an idea that only constitutes a computer program or a method for doing business that is not of a technical nature.
- **Mathematical Method:** Mathematical formula or a method of calculation.

**Trademarks:** Trademarks protect distinctive signs, symbols, logos, names, or phrases that distinguish goods or services from those of others. They provide exclusive rights to use and prevent others from using similar marks in the same or related fields. Trademarks help consumers identify and associate products or services with a particular source or brand.

**Copyrights:** Copyrights protect original creative works in various forms, such as literary, artistic, musical, or dramatic works. They include books, films, songs, paintings, sculptures, computer software, and architectural designs. Copyright grants creators the exclusive rights to reproduce, distribute, display, perform, or modify their works; preventing others from using them without authorization.

**Trade Secrets:** Trade secrets protect confidential and proprietary information that provides a competitive advantage to a business. They include formulas, manufacturing processes, customer lists, marketing strategies, or any valuable information not generally known or easily accessible. Trade secrets rely on maintaining secrecy and can last indefinitely as long as the information remains confidential.

### IT IP Commercialization Strategy

After patent filing, the inventor may start working on the commercialization strategy immediately, the filing process will protect the investor's rights. Commercializing IT IP asset's offers several advantages and benefits for both individuals and organizations. There are several different commercialization strategies, depending on the organization goals and objectives, different approach and strategy selected for each IP asset. The following is a list of strategies along with some pros and cons:

**Licensing:** Licensing involves granting permission to third parties to use your IP in exchange for licensing fees or royalties. It allows others to leverage your IP asset while you retain ownership. Licensing agreements can be exclusive (granting rights to a single licensee) or non-exclusive (allowing multiple licensees). This method is commonly used for software, patents, trademarks, and copyrights. Licensing is an important way of allowing third parties to utilize IP assets without

losing your ownership. A license is a permission to do something that, without the license, would be an infringement or unlawful. A License is a grant by the holder of a copyright or patent to another of any of the rights embodied in the copyright or patent short of an assignment of all rights. In exchange of the licensed rights to use the IP asset to commercially produce a product for sale, a license fees paid to the IP owner (the licensor). There are three different types of IP licenses:

- **Exclusive licenses** – a single licensee has the exclusive rights to use the IP asset.
- **Non-exclusive license** – several licensees have the rights to use the IP asset.
- **Sole licenses** – a single licensee and the IP owner has the rights to use the IP asset.

**Self-deployment:** Self-deployment may be necessary to develop and install a prototype to demonstrate the invention technology. It can also be an important tool for establishing a competitive advantage in lieu of licensing the technology to third parties.

**Selling:** IP asset might be sold. Unlike licensing, when the IP owner sells the IP asset, he loses all ownership rights.

**Franchising:** This method is often used for business models, trademarks, and trade secrets. Franchising involves granting the rights to others to use your IP asset, business model, and brand to franchisees. Franchisees pay upfront fees and ongoing royalties in exchange for the right to operate a business under your established brand or trademark and receive support from the franchisor.

**Spin-off company:** Spin-Offs and Startups: Creating a spin-off company or startup is a way to commercialize IP by establishing a new business entity around the IP assets. This involves developing a business plan, securing funding, and leveraging the IP to create products or services for the market.

**Collaborating-then-competing:** To minimize the risk of technology demonstration, sometimes several parties come together to pool their resources to demonstrate the technology through building and operating a prototype. Once successfully demonstrated, the parties may use the demonstrated technology for marketing and selling the products, thereby competing later with the original collaborating partners.

**Competing-then-partnering:** Typically, the non-exclusive licensees compete in the marketplace based on their individually developed knowhow and resources. Depending upon the success of individual licensee, one or several licensees may elect to stop producing the product and partially align with one or more of the licensees in partnership to take advantage of another licensee's scale of application. In such a case, initially licensees were competing and at later stages they become partners.

**Sale/Assignment:** Selling or assigning IP involves transferring the ownership rights of your IP to another entity. This can be a one-time transaction where you transfer all rights to the buyer, or it can be a partial assignment where you retain certain rights. The sale/assignment can apply to patents, trademarks, copyrights, or other forms of IP.

**Joint Ventures and Strategic Partnerships:** Collaborating with other companies through joint ventures or strategic partnerships can facilitate the commercialization of IP assets. This involves combining resources, expertise, and IP assets to develop and market new products or services. Joint ventures and partnerships can be particularly effective when companies have complementary IP assets or when entering new markets.

**Research and Development (R&D) Collaborations:** Collaborating with research institutions, universities, or other companies on R&D projects can lead to the commercialization of IP assets. By pooling resources and expertise, partners can jointly develop new technologies or innovations and share the resulting IP assets rights.

**Monetization and Revenue Generation:** Commercialization enables rights holders to monetize their IP assets by licensing or selling them. This generates revenue streams, enhances profitability, and provides a return on investment.

**Market Positioning and Competitive Advantage:** Successful commercialization helps businesses establish a strong market presence, differentiating them from competitors. It allows organizations to showcase their technological prowess and attract customers seeking innovative solutions.

**Collaboration and Partnerships:** Commercialization fosters collaborations between IP owners and potential partners, creating opportunities for joint ventures, strategic alliances, and technology transfer. This facilitates knowledge sharing, accelerates product development, and expands market reach.

**Encouraging Further Innovation:** By realizing the value of their IP, individuals and organizations are incentivized to invest in new research and development initiatives. This cycle of innovation drives continuous progress in the IT industry.

## IT IP Commercialization Process

The commercialization process consists of three processes, the IP asset selection, commercialization strategy selection, and execution/market engagement. For each process there shall be predefined selection criteria and a team of SMEs. This should result in a complete package with timetable/schedule.

**IP Asset Selection:** Begin by conducting a comprehensive assessment of your IP portfolio. Review all existing IP assets, including patents, trademarks, copyrights, trade secrets, and software. Evaluate the strengths, weaknesses, and commercial potential of each asset. Align your IP selection with your company's overall business objectives. Understand how each IP asset contributes to the company's goals, market positioning, and competitive advantage. Prioritize the IP assets that align most closely with your strategic direction. IP asset selection requires a cross functional collaboration team to maximizing the value realization of IT IP asset commercialization efforts. It involves bringing together individuals from different functional areas within an organization to leverage their expertise, perspectives, and resources. Here are key considerations for effective cross-functional collaboration in IT IP commercialization:

**Multi-Disciplinary Teams:** Form multi-disciplinary teams comprising professionals from various departments such as research and development, legal, marketing, sales, finance, and operations. This diverse mix of skills and knowledge ensures comprehensive coverage of all aspects of IP commercialization.

**Early Involvement:** Involve cross-functional teams from the early stages of IP development and commercialization planning. This ensures that all stakeholders are aligned, and their input is considered throughout the process. Early involvement helps in identifying potential challenges, addressing legal and regulatory requirements, and optimizing commercialization strategies.

**Shared Objectives:** Establish shared objectives and goals for the cross-functional team. Clearly communicate the purpose of IP commercialization, the desired outcomes, and the metrics for success. This shared vision fosters collaboration, encourages collective ownership, and aligns efforts towards maximizing value realization.

**Effective Communication:** Facilitate open and transparent communication channels among team members. Encourage regular meetings, status updates, and knowledge sharing sessions. Effective communication helps in aligning activities, addressing issues promptly, and leveraging diverse perspectives to make informed decisions.

**Cross-Functional Expertise:** Tap into the unique expertise and skills of each team member. Encourage knowledge sharing and collaboration across functions to leverage the collective wisdom of the team. For example, R&D professionals can provide technical insights, legal experts can ensure IP protection, and marketing professionals can contribute to market positioning and value proposition.

**Integrated Workflows:** Develop integrated workflows that span across functions, ensuring seamless coordination and handoffs. Streamline processes for IP development, legal compliance, market analysis, commercialization planning, and sales execution. Integrated workflows minimize bottlenecks, enhance efficiency, and accelerate the time to market for IP commercialization.

**Continuous Evaluation and Feedback:** Establish mechanisms for continuous evaluation and feedback from cross-functional teams. Regularly assess progress, measure results, and solicit input from team members on areas for improvement. This iterative approach allows for course correction, optimization of strategies, and continuous learning throughout the IP commercialization journey.

By fostering cross-functional collaboration, organizations can harness the collective expertise, perspectives, and resources required to maximize the value realization of IT IP commercialization. This collaborative approach ensures a holistic and well-rounded strategy, minimizes blind spots, and enhances the overall success of IP commercialization efforts.

**Commercialization Strategy Selection:** Select the right commercialization strategy for each IP asset by identifying the target market for the IT IP asset through a comprehensive market analysis. Understand the demographics, industry trends, and customer needs within the market segment to determine the potential demand and value of the IP asset. Continuously monitor market dynamics, technological advancements, and customer feedback. Adapt your commercialization strategy accordingly to remain relevant and responsive to changing needs. Implement a regular review process to monitor and evaluate your IP portfolio. Assess the market landscape, technological advancements, and changes in customer needs. Identify opportunities to expand, divest, or modify your IP assets based on market trends and emerging technologies.

The value proposition of your IP assets can be determined/prioritized based on customer needs, pain points and challenges within the target market to address specific customer requirements. Conduct IP valuation exercises to determine the value of your IP assets. This involves assessing factors like market demand, potential revenue streams, competitive landscape, and the uniqueness of the IP. Valuation helps in making informed decisions regarding the commercialization strategy selection.

Develop a range of monetization strategies beyond traditional licensing. Explore options like consulting services, training programs, customized solutions, or subscription models that capitalize on your IP assets. Diversifying your monetization strategies can maximize the value of your IP portfolio.

Customize your commercialization approaches based on the specific nature of IT IP assets and market dynamics. Consider all above mentioned commercialization strategies. Engage legal and IP professionals with expertise in IT IP commercialization to optimize the value realization of your IT IP assets, consider their guidance and advise to navigate smoothly through complex legal and regulatory issues. The goal is to select the right strategy for monetizing each intellectual property, evaluated based on the conditions of the marketplace.

**Execution/Market Engagement:** Conduct thorough market research to identify potential customers, market trends, and demand for your IT IP assets solutions. Understand the target audience, their needs, and how your IP can address those needs effectively. Conduct market analysis to identify potential opportunities for commercializing your IP. Understand market trends, customer needs, and areas where your IP assets can address unmet demands or solve industry challenges. This analysis helps in identifying high-value opportunities for licensing, partnerships, or product development. Develop a compelling marketing strategy to promote your IT IP, emphasizing its unique features, benefits, and competitive advantage. Build a strong brand identity that resonates with your target market. Establish mechanisms to monitor and protect your IP from unauthorized use or infringement. Regularly review legal frameworks, seek legal advice when necessary, and take appropriate action to safeguard your rights. Examine the market for potential rivals, their products, and positioning. Evaluate their strengths and weaknesses to discover chances for differentiation and a distinct edge in the marketplace.

Collaborate with strategic partners, such as industry leaders, research institutions, or technology accelerators, to leverage their expertise, resources, and market reach. Strategic partnerships can help expedite commercialization efforts and enhance the value realization of IT IP assets.

Identify potential risks and challenges associated with IP commercialization, such as legal issues, market adoption, or technological feasibility. Collaboratively develop risk mitigation strategies, leveraging the expertise of legal, technical, and market experts to minimize uncertainties and maximize value realization.

## 2. CONCLUSIONS

Maximizing the value realization of IT IP assets through commercialization is a critical endeavor for organizations seeking to leverage their intellectual capital and drive innovation-driven growth. IP assets cost the organization a lot of money to develop, formalize, and get it granted by an authority such as the USPO. Not all IP assets are possible and practical to commercialize, however, usually commercializing some of the IP assets create enough revenues to cover the cost of the whole IP assets portfolio and assure the innovation momentum continue and grow along with the business. Realizing value from technologies can be manifested through internal deployment, commercialization, or both. Through the comprehensive approach discussed in this article, organizations can unlock the full potential of their IT IP assets, capitalize on market opportunities, and achieve optimal returns on investment.

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