

# COMBINING DESIGN EXPLORATION WITH PATENT WHITE SPACE INVESTIGATION:

NAVIGATING PATENT, BUSINESS, AND INVENTION STRATEGY

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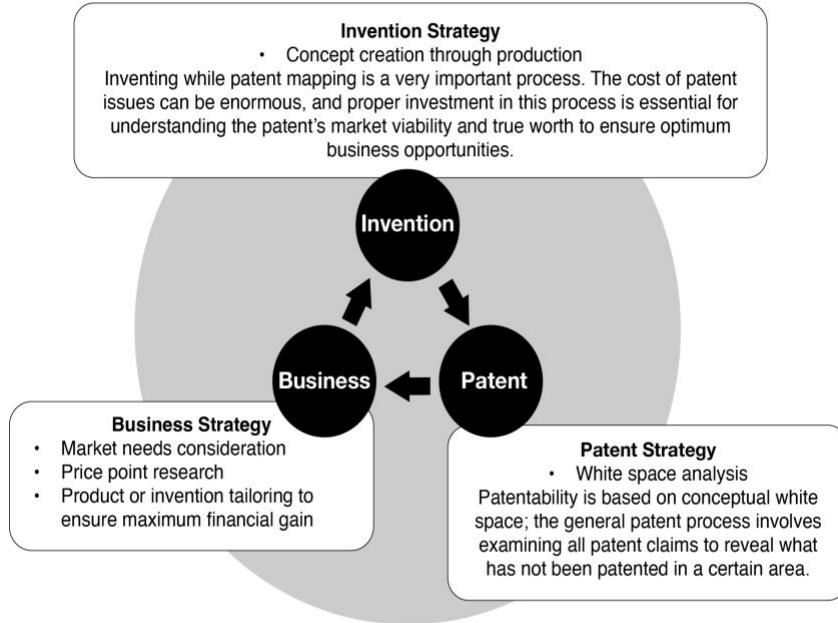
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*PAPER ABSTRACT: Patton Design's 40+ years of success creating inventions that shift the societal paradigm of mechanization and complacency have yielded a unique methodology for combining design exploration with patent creation, the concept of which encapsulates profound opportunities for innovation. The imaginative process of conceptualizing industrial design solutions to help humanity will be delineated; fundamental within this effort is an investigation of the patent white space, as it is crucial to understand what already exists on the market when inventing, designing, and engaging in the perpetual act of problem-solving.*

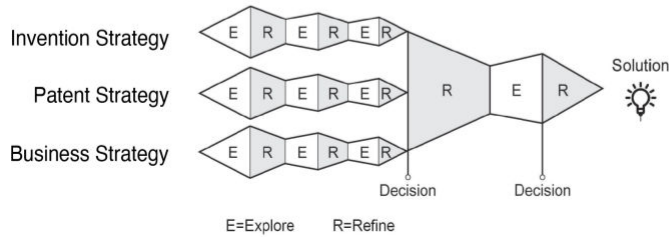
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**The Ecology of Invention, Patent, and Business Strategy**

The ideal invention process is based upon the integration of three disciplines: invention, patents, and business. It generally takes 2-3 revolutions of communication, exploration, and refinement to create the optimum invention or product.



The ecology of invention, patent, and business strategy is a multi-part process.



With exploration and refinement, the three paths of invention, patent, and business strategy merge into one primary process.

**1. INTRODUCTION**

Patton Design's 4 decades of invention, its receipt of over 200 patents, and Doug Patton's tenure on the Patent Public Advisory Committee is the lens through which an evaluation of patent white space and invention will issue. Said discourse is intended to supplement existing strategy and research in order to give creationists seeking the power of innovation both the skills and mentality needed for success.

**2. FIRST TIER OF INNOVATION: PATENT STRATEGY**

The foremost branch of the invention process involves a patent strategy with which a thorough white space analysis is performed. It is crucial to examine all patent areas to ensure that a concept is completely viable.

While incredible ideas are conceptualized with alarming frequency, quite an enormous investment on the front of both finances and efforts is easily squandered if it is shut down by infringement within the market given a lack of due diligence. The act of engaging in the necessary brainstorming ahead of time is not only necessary for the final product, but also a source of great inspiration for related concepts one can produce in the future.

One must be literate in the vernacular of the invention process in order to successfully navigate the first tier of patent white space exploration. He must allow the process to be incredibly fun and imagination-driven, letting his thoughts go wild in a space often seen as restrictive. It is indeed a process in which claims can be creatively generated using concepts and language that are defensible.

Fundamental within the patent strategy process is the formation of a viable problem statement, which essentially serves as a roadmap allowing one to navigate new terrain with relative ease. Problem identification, as discussed by Osborne (1947), is a crucial aspect of the problem statement that must be formulated through willingness to ask every possible question and investigate every area related to what the product or concept is setting out to do. This process is not for the faint of heart; one must not cheapen his efforts wondering whether his efforts are in vain, as such a thought process will greatly diminish the efforts undertaken (Patton, 2021).

The problem statement is the visionary guide in the process of patent viability, allowing one to understand every detail of a vision in terms of both technical and practical aspects of use. Indeed, without complete clarity of what is being invented, one will become lost in the wilderness of patentability.

Combining phacoemulsification and femtosecond laser technology was a situation in which Patton Design needed to be laser-focused on the surgical process, the physiological makeup of the eye, and the surrounding markets. Determining all complementary aspects of the issue at hand was the basis for defining the problem statement, which allowed an investigation of how to combine technologies to proceed in a space where legal protections are vital. The process to merge system components began in 2011 with patent strategy; it concluded in 2019, at which time the FDA accepted the design, allowing it to enter the market in 2022.

## **2. SECOND TIER OF INNOVATION: BUSINESS STRATEGY**

The second aspect of strategic invention involves thoroughly-undertaken market needs consideration and price point research. Without exhaustive attention given to these tasks, one cannot hope to produce a viable product or concept, let alone position himself for maximum financial gain.

Similar to the thinking present for the patent strategy aspect of the process, many inventors and designers feel business strategizing is not only boring, but also something that they shouldn't have to worry about. However, it is vital for business strategy to accompany invention, enabling shifts of patent and conceptual strategy to fit the criteria being created and calibrated.

The process of generating an idea can be a revolutionary and exciting process, but it must be approached with assessment of how much it will cost to produce a concept, consideration of whether the cost can furnish success in the marketplace given comparable concepts, and analysis of the sociological constraints that inform the whole of the unfolding business strategy. This tier of the process must always be grounded in real world thinking and an understanding of the unmet needs of humanity.

The creativity compass principle is especially pertinent with regard to business strategy in the patent white space. With the creativity compass, one becomes able to recognize directive goalposts through conceptual investigation, gaining the courage necessary to persevere in the chaos of creativity in so doing.

When Patton Design was contracted to design a corneal mapping system for the eye before surgery, the device was accurate with a >1% error rate but cost over \$100,000. When market viability was scrutinized after the fact, the product never moved forward because research determined that a

system could be bought for \$5,000 that was much less accurate; unfortunately, surgeons didn't think that better technology was worth the price differential. With more exacting business research in later years, we became part of efforts to develop a system that cost \$15,000 and was 85% accurate; it did in fact enter the market.

### 3. THIRD TIER OF INNOVATION: INVENTION STRATEGY

The invention strategy tier of innovation involves concept creation through production. There is a considerable cost associated with this part of the process, so one must proceed with informed sensitivity and caution. Market viability can only be fully ascertained through investment of both time and funds, and this step, while often overlooked, is one that the importance of cannot be emphasized enough.

Having proceeded through the patent strategy and business strategy subsets of the process, the solution statement becomes particularly important in the ultimate stage. The true genesis of the essence of creativity and imagination are an inherent part of designing this statement to identify and guide creative epiphanies.

In arriving at the solution statement, it is essential that you be a visionary with great capability to combine all disciplines in service of invention. In the early days of Apple, Steve Jobs was fired by the board and John Scully became the director. In much the same fashion that Ford created the Edsel, Scully created a portable computer that was significantly bigger than the Macintosh Classic. When this product failed before it reached the market, it was apparent that it lacked vision, as every possible idea had merged without discretion and without the associated journey from problem to solution (Patton, 2021).

### 4. CONVERGENCE: PATENT, BUSINESS, AND INVENTION STRATEGY

Within the purview of the three-step multidisciplinary vision convergence (MDVC) principle, the three categories of patent strategy, business strategy, and invention strategy combine in a fully-realized concept that is ready to strategically serve humanity (Patton, 2021). MDVC is a powerful agent of change that can create a methodological framework for and within complex processes, paving a path from problem statement to solution statement; it involves a high degree of pinnacle vision, which is a principle that can be utilized to great effect. Both principles are supported by a vast amount of psychological research, such as that of Scott Kaufman (2013).

Pinnacle vision can be explained well with the analogy of climbing a high mountain peak, which allows one to see much further than when he started his journey. The MDVC and pinnacle vision of invention, patents, and business strategy, in this sense, are an invitation to both beginning and young designers to see ever-further in ways that can help to elevate humanity.

The ecology of inventions, patents, and business is encapsulated by another metaphor viable within the metaphorical preview of pinnacle vision. A forest is a sensitive environment fueled by the sustaining efforts of all its components; a lake, rivers, sunlight, the flora, and the fauna all do their part to synergistically maintain a functional environment. Invention, patent, and business strategy are synergistically aligned in just the same way; as water passes within a river, an idea passes through the three tiers of invention in a circulatory process. It does not so much matter where an idea starts, as if it passes through each one of these components, it becomes a complete idea, with all aspects of its totality nurtured in the revolving, evolving creative process.

Patton Design has produced over 300 products in 20 market categories and garnered 100s of patents within multiple fields of invention. In 2006, Doug Patton was called to assist the USPTO in in Virginia, where some of the most brilliant minds in the patent world had gathered. After seeing the eight-phase process Mr. Patton had developed that was informed by the three tiers of patent, business, and invention strategy, John Dudas, the director of the USPTO, agreed to use Patton's process for

generating problem and solution statements that involved a high degree of MDVC and pinnacle vision. The outcome was incredibly successful.

## 5. CONCLUSION

Anyone can venture on the journey of an incredible creative revolution with patent, business, and invention strategy. Creativity and innovation demand one's best work in looking at all angles of an enterprise to ensure it is best situated to help humanity. Such an undertaking is needed now more than ever as a stride towards consummate design that elevates us all.

## 6. REFERENCES

Kaufman, Scott. *The Real Neuroscience of Creativity*. August 19, 2013.

<https://blogs.scientificamerican.com/beautiful-minds/the-real-neuroscience-of-creativity/>.

Osborn, Alex. (1947). *Applied Imagination: Principles and Procedures of Creative Thinking*. Scribner Book Company.

Patton, Doug. (2021). *Conquering the Chaos of Creativity*. Pedernales Publishing.