



The Innovation EDGE™

Turning Visions into Value

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1.0 INTRODUCTION

Innovation typically receives a glowing review for its importance to our nation and society. Innovation is a hallmark of U.S. economic growth and prosperity; it fuels competitive differentiation that is increasingly important as globalization threatens jobs through price competition. The press is flooded with executive quotes citing innovation as a key to sustainable competitive advantage, university researchers forecasting the market-changing implications of their inventions, and entrepreneurs making millions on their ideas.

However, there is a less glowing reality about innovation that often does not make the headlines. Few ideas ever make money. Nine in ten new ventures fail (statistics vary depending upon your definition of venture stage and what constitutes success versus failure). The return on investment (ROI) for most technologies and patents is negative. Infringement suits cost millions and are not worth the investment unless the stakes are high. The best ideas often lose in the marketplace due to issues of high cost and low market acceptance. First-to-market innovations are often eclipsed by fast followers, and intellectual property (if not the inventor) sometimes expires before an innovation finds market success.

Is the commercialization of innovations art or science? Is it chess or poker? Do you make money on lots of base hits or just a few home runs? The answer is yes.

Can one framework teach you how to create an idea and guarantee you will make money on it—obviously not; an entire career often does not lend that wisdom. However, can one framework provide you with an organized method for thinking about innovation, tools for evaluating opportunities, techniques for formulating marketing strategies, and real-world examples to bring these topics to life—absolutely.

2.0 OBJECTIVES OF THE INNOVATION EDGE™

The Innovation EDGE™ is a framework to structure, demystify, and unify your approach to the journey from idea creation to value extraction (a.k.a., the vision-to-value process). Many frameworks outline a linear approach to commercialization such as a checklist or stage-gate process. The Innovation EDGE™ instead is a “dashboard” or “guidepost” that provides a glimpse into many of the multifaceted factors you must take into account when considering how to extract value from an idea. Whether your idea is hours old or has been a pursuit of a lifetime, the Innovation EDGE™ helps you to keep a host of important factors at the forefront. As you move through the vision-to-value process, the depth at which you should ask questions relative to each EDGE-factor increases.

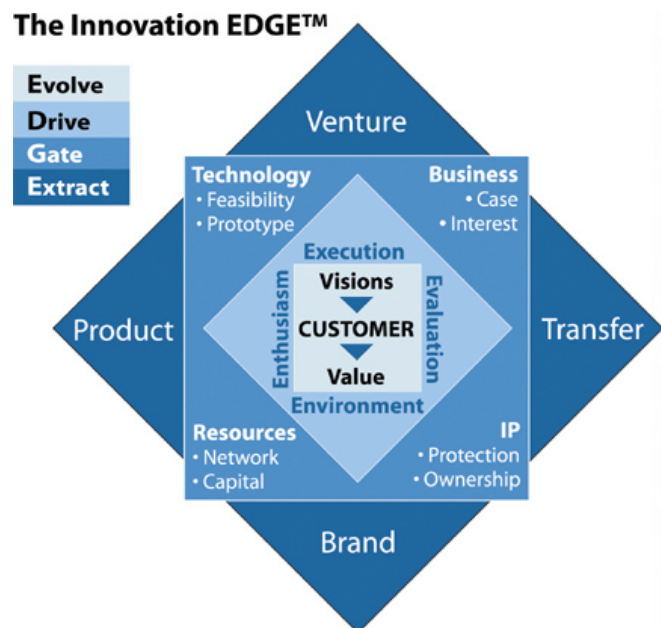
The Innovation EDGE™ provides a guide to help the practitioner address the following commercialization questions:

- **Innovation Framework:** What are the steps between idea creation and value extraction?
- **Evaluation Process:** If so few ideas make money, then is there a process to identify commercial diamonds in the rough? What evaluation factors are relevant and how do you gain information on each?
- **Value Extraction Strategies:** What are the different ways to extract value from an idea? What are the pros and cons of each path? How do you decide which path is best?
- **Commercialization Tools:** If pursuing the commercialization of an idea, what techniques can be used to minimize risk and increase rewards?

3.0 THE INNOVATION EDGE™ DEFINED

From the inside out, the Innovation EDGE™ “dashboard” highlights four facets of the commercialization process where you **evolve** the idea, **drive** it forward, grow it through **gates** of development and evaluation, and then **extract** value via one or more strategies:

- **Evolve:** To mature a concept from idea to offering to opportunity
- **Drive:** To foster the intangibles surrounding the idea to provide the best chance for value extraction
- **Gate:** To evaluate and develop an idea to ensure success on multiple levels
- **Extract:** To pursue a strategy that will generate value for your organization



3.1 Evolve

The “Evolve” factor reminds us that the transition from vision to value extraction does not happen overnight. It is a journey and metamorphosis that requires significant incubation, nurturing, and refinement. This metamorphosis moves you from idea (concept of perceived value) to offering (collection of benefits the idea will render that will be of value to a customer) to opportunity (proof that a customer values the aforementioned collection of benefits). The term “evolve” is appropriate since it is very “Darwinian” in nature: you often cannot predict the path forward, there is a type of natural selection at play, it can take a long time for progress, and advancements often occur in significant steps. It must be noted, however, that in this evolutionary process someone must drive the process forward in order to maximize the chance for success. Common challenges during this evolutionary process include acceptance that your idea will often change markedly, you must adapt to that change effectively, and that success requires an incessant desire to connect with customers. The most grave and common flaw during this process is to become enamored with the innovation instead of the customer. Innovations that do not solve key customer wants/needs are often doomed for failure at the start.

3.2 Drive

The “Drive” factor reminds us that no value-extraction effort surrounding an innovative idea will progress without the necessary push forward. These elements (a.k.a., the Four Es) characterize the drive factor: Execution, Evaluation, Environment, and Enthusiasm.

- **Execution** embodies all of the strategic planning and implementation actions that must be conducted throughout a commercialization effort in order to be successful. Why not call this “strategy” to focus on the big picture first? Many executives say that if faced with the option to have an A-grade strategy with a B-grade execution or vice versa, they will opt for an A-grade execution every time. Why? Because strategy represents the path you will take to move from your current state to your desired state, and like most journeys, there is more than one route to your destination. Poor execution, however, will ruin the trip regardless of the strategy chosen. Execution is about turning ideas into action, and ideas do not turn into action without a strong push. Jim Collins, author of business bestsellers *Built to Last* and *Good to Great* once remarked that a key to success is disciplined people pursuing disciplined thought and taking disciplined action. This is what is required to be successful at commercializing innovations. A common execution challenge is “planning inertia,” i.e., an unwillingness to abandon past plans as new findings suggest an alternate path is prudent. Simple decision trees are excellent tools to bring structure to your planning and execution processes.
- **Evaluation** embodies the continuous commitment you should make to evaluate your strategy and assumptions about a commercialization effort. Evaluation can take many forms and must occur on many different levels. Consider a 3-axis evaluation scheme of factors (technology, business, intellectual property, and resources) vs. stages (concept, prototype, pilot testing, and rollout) vs. investment level (low, medium, and high). Regardless of whether such an evaluation is more qualitative or quantitative, you can envision how that evaluation will drive you to think about a commercialization effort on multiple levels, which is critical to success. Commercialization of innovation is like a multi-cycle engine. The malfunctioning of only one cylinder can be devastating to engine performance; all cylinders must be operational and working in harmony for the engine to have the chance to meet expectations. A key to evaluation is to balance rigor with



instinct. Everyone agrees that continuous evaluation is important, but few turn that belief into practice.

- **Environment** addresses the ecosystem surrounding the innovation at hand and the group striving to explore its commercial potential and its path forward. Environment has both internal and external connotations. Internally, the dynamics and situation surrounding the commercialization team represent a strong success factor. Externally, the positive reinforcements and negative pressures experienced also play a role. Whether internal or external, the environment can be characterized as forces that can have either a positive or negative impact on the effort. Positive environments are supportive of an idea by providing encouragement, capital, mentoring, in-kind support, team spirit, constructive criticism, supporting intellectual property, and other elements. Negative environments are the mirror image by providing discouragement, barriers to capital and mentoring, defocusing chores, negative energy, deconstructive criticism, intellectual property issues, and other elements. Positive environments even serve as users of your innovation at times. A key is to acknowledge the environment you are in, make the most of it, and yet be willing to change when necessary. As with any measurement, one needs a reference point for an evaluation to have meaning. Talk to others so that you truly understand how your environment compares and contrasts with others
- **Enthusiasm** is perhaps the most intangible and necessary ingredient to a successful vision-to-value effort. Ralph Waldo Emerson once said “Nothing great was ever achieved without enthusiasm.” Enthusiasm in this context embraces the passion, drive, and championing that must be present at the individual, team, and organizational levels in order for an innovation to generate value. In many ways enthusiasm is the "wildcard" in the evaluation process discussed earlier. No matter how strong an idea may look on paper, without an enthusiastic champion behind it, the extraction of value from that idea will likely fail. Why would anyone not be enthusiastic about extracting value from an idea? You would be surprised how often this can occur. Professors often value publishing and research over commercialization activities. Companies may pursue the commercialization of intellectual property whereas the inventors may have left the division or company. Individuals often do not have the time, money, or risk-tolerance to turn their curiosity into passion. Many scenarios exist where enthusiasm by the inventor may not be sufficiently high to drive value-extraction efforts. So how do you measure enthusiasm and how much is enough to be successful? This is a factor that must be measured at the instinct level – you sense when there is enough enthusiasm at a given stage of commercial development. In short, if you do not sense there is enough enthusiasm behind an effort, either find the energy switch or pull the plug and transfer that investment to a more deserving innovation. It is key to surround yourself with enthusiastic talent (both internally and externally) and have the leadership in place to channel that talent on high-priority tasks.

So, the process for turning your vision into value is improved when you “drive evolution” through the four Es of execution, evaluation, environment, and enthusiasm.



3.3 Gate

The “Gate” factor relates to the development and evaluation of an idea as it moves forward. The four elements of the gating process are as follows: technology, business, intellectual property, and resources. As you move forward with a commercialization effort, an increasing number of questions must be asked and investment must be made with respect to each element.

- **Technology** embodies the “can you do it?” question surrounding an innovation. Technology is ultimately the capability (i.e., collection of benefits) that the innovation realizes for future customers. Initially, sub-factors of importance within technology include feasibility, prototyping, and manufacturability. From a development perspective, a technology must be continually refined and improved while being customer driven (i.e., listen to the voice of the customer so that the technology is refined in ways that will be commercially significant). From an evaluation perspective, outsiders will question whether or not the innovation can be reduced to practice and if such a reduction can ever be manufacturable (i.e., sufficiently robust, repeatable, and inexpensive compared to industry norms and constraints). For engineers and scientists, technology is often an area of great strength and focus. Key challenges are to reduce inventions to practice (and finding the budgets to do so), to shift direction as needed, and to accept that increases in performance are often not of high value in the marketplace (and cannot be evaluated in absence of cost). Jon MacClennan, angel investor in North Carolina, once remarked that quality is the sum of weighted attributes and value is quality divided by cost. The key to technology development (and arguably all facets of commercialization) is to get the customer to define quality and value for you (high quality does not necessarily mean high performance).
- **Business** embodies the “can you profit and who cares?” questions. Business is about meeting/exceeding expectations when providing a new product/offering to customers/clients, while simultaneously returning value to shareholders/stakeholders in a sustainable manner compared to the competition. For many situations, one can argue that business factors are the most central to the development and evaluation of an idea. Business is often categorized into functional sections like management, operations, marketing, and finance. While such a categorization is fine for new venture development and/or mature efforts, what should you use as a business guide early in the vision-to-value process? Perhaps the three most fundamental sub-factors are case, competitive advantage, and interest. Can a business case be crafted that has hopes of being competitive and profitable? Does the offering have a sustainable and significant competitive advantage? Perhaps most importantly, is there any interest in the technology? Note that there is a difference between “need” and “interest.” Need is the projection that a market/industry/customer will find utility in an offering. Interest is a positive signal that such a need is actually a reality. Envisioning a sound business case and hearing evidence of genuine interest in the benefits the offering provides perhaps represent the two most fundamental facets of the business aspect of development and evaluation.
- **Intellectual property** represents the “do you own it and/or can you protect it?” questions. Intellectual property represents the rights to exclude others from making, using, or selling your innovation. The most common types of intellectual property include copyrights, patents, trademarks, and trade secrets. Today, for example, a U.S.



patent essentially provides an owner the right to exclude others from reaping the benefits of an invention for 20 years from the date of application. This “legal monopoly” provides the patent owner with a strong competitive position in the marketplace “if” the invention is of commercial value. Thus, the two primary questions that surround intellectual property are ownership and protection. Protecting your own innovation involves using intellectual property protection tools. The best tool must be selected and tailored for the innovation. A key to intellectual property strategy is to be “market driven” rather than “patent driven” and to find business-oriented patent counsel that appreciates the difference.

- **Resources** embody the “can you support it?” question. Resources represent the capital (both human and financial) and network that fuel the innovation effort. Capital is perhaps the most obvious of these; insufficient talent and funds are common killers of young start-ups and new product development efforts, for example. Less obvious is the importance of a network. A network is the collection of individuals, teams and organizations with whom you have connections that can be exercised for the good of the innovation effort. A key success factor is to recognize that partnering is paramount. You cannot be successful alone (and besides, it is far more fun to be in the trenches and succeed/fail with a team). While history has celebrated and romanticized the “individual inventor,” a closer look reveals that inventors like Thomas Edison et al were quite dependent on others to spark, refine, and enhance the ideas that made them famous.

3.4 Extract

The “Extract” factor is in many ways the most obvious while also being the most illusive to properly harness. Extract involves finding the value extraction strategy with the most preferred risk-reward profile from the perspective of the team driving the innovation forward. The Innovation EDGE™ acknowledges four value-extraction pathways: product, venture, transfer, and brand. A key objective of the Innovation EDGE™ is to serve as a constant reminder that all four pathways exist to prevent committing to a single pathway too early in the process. Product, venture, and transfer paths are well discussed in traditional new-product-development, entrepreneurial, and technology transfer literature, yet many practitioners do not bridge the gaps between these bodies of knowledge to appreciate the similarities and learn from the differences (a key driver to creating the Innovation EDGETM in fact). Brand, as discussed, is the acknowledgment that every idea within an organization matters even if it does not lead to money and fame.

- **Product** represents the value extraction pathway whereby an idea within an existing organization leads to a new product or an improvement to an existing product. The innovation may lead to a substitute offering or an enabling offering. Markets tapped may be existing or new. Technologies incorporated may be standard or cutting edge. The genesis of the idea may have been sparked individually or through the work of a team. A key to success for the product strategy is acquiring internal buy-in that the idea should be pursued. Without internal buy-in, the resources of an existing firm cannot be marshaled to push the idea forward. Knowledge about the product pathway has been circulated in the new product development literature and within the corporate memory of Fortune 500 firms. The product path is often appropriate if you are an employee and your innovation is synergistic with the existing competencies and/or business strategy of your firm.



- **Venture** represents the value extraction pathway whereby an idea leads to a new enterprise (e.g., start-up company, spin-out, or joint venture). Popularized by the entrepreneurial literature, the new venture pathway is often considered to be the value extraction strategy with the most upside potential. Driven by passion and stock options (typically more the former than the latter), entrepreneurs dedicate their lives to making the new venture succeed. The visible success factor in new ventures is the art of accessing capital to fuel the business before products/services can support expenses. However, a broader element of necessity is establishing a “critical mass” of support surrounding the venture upfront beyond just capital (e.g., team members, customers, and intellectual property). In *How Breakthroughs Happen*, Andrew Hargadon stresses the importance of the establishment of “collectives” surrounding a new idea that provide momentum and protection as the idea moves closer to a commercial reality. The venture path is often appropriate if your idea is highly innovative and you believe you can form a “collective” surrounding the idea to spark commercial success.
- **Transfer** represents the value extraction pathway whereby an idea is transitioned to another entity to pursue commercialization. This pathway is known by a variety of names in government/university (technology transfer) and commercial (licensing or intellectual asset management) circles. Essentially, transfer is about tempering the risk-reward ratio of an innovation. To pursue a product either within an existing firm or in a new venture leads to a high risk / high reward situation. Transferring an innovation to another organization (e.g., through licensing) decreases risk (placing the onus of commercialization on the licensee), while also reducing the reward. Like seeking a range of investments in an IRA, transfer can be an interesting alternative to product or venture pathways when balance is the goal in an innovation portfolio. For example, the licensor might expect a licensed innovation to return 25% of licensee profits. The licensee receives the bulk of the profits since they take on the bulk of the burden for costs and risks. However, the licensor income flows straight to the bottom line of the organization. Organizations like IBM and Texas Instruments are well known for the success of their licensing programs. Besides licensing, transfer may include technology donation, direct sale, or publishing. Perhaps the key success factor in transfer is finding a match with an interested buyer and valuing the innovation to support a mutually beneficial negotiation of terms. The transfer pathway is often appropriate if you want to minimize your risk and can find a licensee with whom the innovation fits.
- **Brand** represents the value extraction pathway whereby an idea directly or indirectly brings value to an organization outside of product, venture, and transfer strategies. This final category is designed to duly acknowledge, celebrate, and encourage those ideas that are of value to an organization, yet receive less if any internal or external press. Ideas in the “brand” category include any type of improvements in efficiency, effectiveness, and process. While less visible, these grass-roots ideas are at the heart of organizational success and truly define a culture of innovation at a firm. Value extraction from “brand enhancements” is more indirect and intangible by nature. Challenges with brand-enhancement ideas include how to ensure a “payoff” for individual contributors beyond just the indirect benefit of firm competitiveness. The establishment of incentives to encourage and recognize innovation within the workplace is critical to fostering and sustaining a culture of innovation with long-term benefits to the firm.



4.0 THE INNOVATION EDGE™ AT WORK

So, how can a framework like the Innovation EDGE™ help you turn visions into value? Whether you are an entrepreneur or part of a product team, use a framework like the Innovation EDGE™ as a “dashboard” for your work. Post the Innovation EDGE™ graphic in your office or team room. Routinely step through the factors in the framework and assess the quality of your effort against each factor. Tailor the process to develop your own “Innovation Scorecard” for grading your commercialization effort. Most importantly, use the framework to continually critique your effort. As you evolve your innovation from idea to offering to opportunity, continue to ask more questions with respect to each factor. The power of the framework is in serving as a constant reminder that the process of extracting value from innovations is a multi-faceted process in which all factors are critically important to tip the odds in your favor. Louis Pasteur said “Chance favors the prepared mind.” Be prepared – follow the Innovation EDGE™.

5.0 THE REST OF THE STORY

Additional processes and information surrounds the Innovation EDGE™ framework. Other elements of the Innovation EDGE™ include commercialization tools such as the following:

- Ideation: Fostering creativity and concept creation
- IP strategy: Using intellectual property as a strategic lever in business
- Evaluation: Screening ideas at various stages along the vision-to-value continuum
- Business models: Considering new ideas on how an innovation can bring value to an organization
- Intelligence gathering: Learning more about customers and competitors
- Value chain: Mapping a market to drive marketing strategy discussions
- Technology marketing: Marketing capabilities rather than products/services
- Valuation: Estimating a range of values for an innovation using simplified yet credible methods
- Licensing: Considering, structuring, and negotiating license term sheets
- Networking: Creating, maintaining, and tapping relationships

