

# Sensemaking: The Entrepreneur's Competitive Edge

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An entrepreneur has many challenges; new problems to solve, new solutions to develop, new organizations to build, new customers to satisfy, along with many more. Successful entrepreneurship does not come to the unmotivated or faint-of-heart.

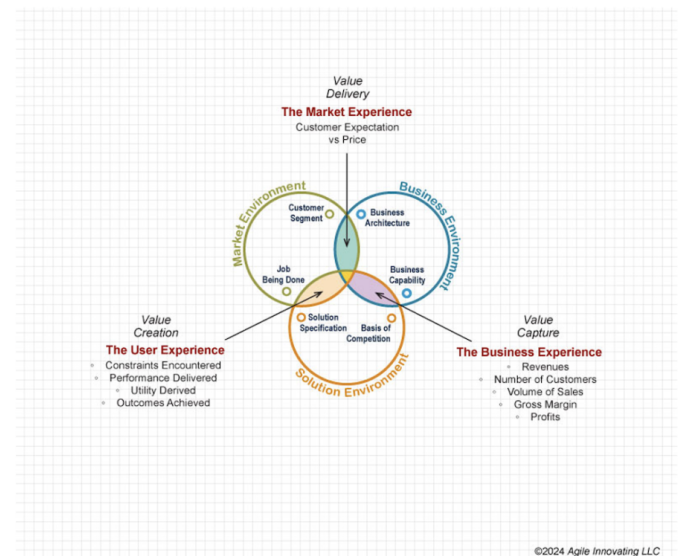
My thoughts about entrepreneurship are informed by my own career in corporate innovation. For 44 years I worked in companies developing automated machinery and equipment in the banking (ATM's), pharmaceuticals (powder processing), mail (sorting and handling), automotive (metal forming), and capital goods (smart lockers) markets. My roles included senior and functional management, chief engineer, and mechanical engineer responsible for technology development, R&D, NPD, and manufacturing process development. In those roles I was responsible for the development of many ideas that became innovations in their particular market, as well as many others that didn't achieve that level of success.

Since then, I've spent a lot of time thinking and talking with other experts about my experiences. What I've concluded is that the difference between the market changing successes and the less impactful development efforts wasn't due to random chance. All the successes shared the same characteristics while the less successful were incomplete in some aspect. I have used these learnings to develop a framework that distills and documents what I think are the key elements of a high impact innovation practice. I have successfully tested that framework in the context of some of the most innovative companies of the last 40 years. I'll elaborate on that framework below.

An entrepreneur's primary work is to innovate. Innovating is the purposeful invention and introduction of new solutions that cause beneficial change in the business environment, the solution environment, and the market environment. These three environments, collectively, constitute the status quo. The entrepreneur's goal is nothing less than changing that status quo.

Too many entrepreneurs don't succeed in doing that, and it's estimated that most new ventures fail within five years. But bringing the right skills and abilities to bear on the particular challenges that get your innovation juices flowing can improve those odds. Making sense of the status quo is where every story of successful entrepreneurship begins.

## Start Here: The Status Quo Model



The three environments, which both define and constrain the status quo, are:

- *The solution environment*, which includes all competing solutions and the differentiation on which they compete.
- *The business environment*, which includes all competitors involved in providing solutions, their individual business architectures, and their distinctive capabilities.
- *The market environment*, which includes the customers and users who acquire solutions, and the jobs the solutions are intended to do.

The intersection of the market and solution



environments yields the user experience, a consequence of the job being done and the particular solution specification. The intersection of the solution and business environments yields the business experience, based upon the basis of competition and business capabilities. The intersection of the business and market environments yields the market experience, based upon the customer segments and the competing business architectures.

Innovating is based upon the premise that your new solution will provide a better user, business, and market experience than existing solutions. The new solution must create new value for the user, capture new value for the business, and deliver new value to the market. By clarifying the current state of the three types of experience, you can anticipate changing the status quo with a distinctive new solution that improves the experiences.

## The Entrepreneur's Essential Skills

Entrepreneurial success depends on the ability to get impactful results from the exercise of four essential skills:

- *Sensemaking* - making sense of the status quo by defining the market, solution, and business environments, identifying cause and effect relationships, clarifying uncertainties, and discovering what “make sense” and “what doesn't”
- *Inventing* - utilizing a creative practice to imagine new solution concepts by connecting ideas with technologies to solve problems worth solving
- *Introducing* – ensuring the availability of new solutions by aligning the organization's knowledge, skills, capability, and capacity with the requirements of the new solution
- *Distributing* - establishing the route to market for information, products, and services in support of the new solution

Of the four skills, sensemaking is the least known, least understood, and least effectively exercised. But paradoxically, sensemaking skill often makes the difference between venture success and failure, regardless of the skill level exercised in the other three essential skills.

Sensemaking includes the ability to discover, diagnose,

and define what “does and doesn't make sense” as you seek to understand the dynamics of how the existing market, solution, and business environments work together to provide user, business, and market experiences. This is the launchpad for making the other three essential skills impactful.

## Sensemaking and the Founding of NVIDIA Corporation

In the early 1990's, three computer scientists (Jen-Hsun Huang, a micro-processor designer from LSI Logic and AMD, Chris Malachowsky, an engineer at Sun Microsystems, and Curtis Priem, a senior engineer and graphic chip designer at IBM and Sun Microsystems) formed NVIDIA Corporation. By taking a retrospective look at their early decisions and actions -- through the lens of the status quo model -- we can gain some insight into their sensemaking process as they founded and grew the company.

### Business Environment

The dominant microchip manufacturers at the time were Intel and AMD, specializing in designing and producing CPU's (Central Processing Units) for nearly all computer processing applications. CPU technology is based upon linear sequential processing which was starting to show signs of processing capacity constraints that would eventually limit processing speeds.

### Architecture - Purpose (What we intend TO DO)

NVIDIA was motivated by two purposes (see my December 4, 2023 EIX article “[Sensemaking and Purpose Drive Innovation and Transformation](https://eiexchange.com/content/sensemaking-and-purpose-drive-innovation-and-transformation) (https://eiexchange.com/content/sensemaking-and-purpose-drive-innovation-and-transformation) ” for a complete description of the eight sources of purpose):

- We have a problem to solve – the need for accelerated computing through faster processing speeds in specific applications
- We have a new technology – GPU microchip technology (Graphic Processing Units) that performs parallel rather than serial processing to increase processing speed

### Architecture - Strategic Intent (What we intend TO BE)

The dominant microchip suppliers, Intel and AMD, with

their well-developed invention and introduction skills, will respond if GPU processors start to become substitutes for CPU processors. Therefore, we must:

- “Be first” to get ahead of any potential competitive response.
- “Be fast” to stay ahead of any competitive response

### Capability – Core Competence

- R&D – the GPU chips must have an “ease of use” advantage over CPU chips to facilitate substitution
- The product introduction cycle must be less than the 18 month cycle based upon Moore’s Law, which was utilized by Intel.

### Market Environment

#### Customer Segment – Where are users “under-served” by CPU technology?

- Computer gaming products compete on continuously enhancing graphics capabilities. Computer gaming companies work on an annual new product release cycle, with enhanced graphics being the distinguishing feature of new products.
- A continually improving GPU chip that supports enhanced graphics capabilities, available on the gaming companies’ new product release cycles, would convert a gaming company “want” for faster microchips into a “need.”

#### Job-Being-Done to Job-To-Be-Done

- The JBD by CPU chips supplied by Intel and AMD was improving processing speeds through incremental improvements to CPU chip design.
- The JTBD by NVIDIA GPU chips was to accelerate processing speed improvements through radical changes to chip architecture and processing controls.

### Solution Environment

- Solution Specification: A multiple core, parallel processing, microchip architecture that has CPU level reliability and durability, greater processing speed, and application interfaces and utilities

that make changing from CPU to GPU technology as easy as changing from one generation of CPU chip to the next.

- Basis of Competition: The GPU microchip will compete against CPU microchips based upon physical size, processing speed, reduced heat generation, reliability, durability, and ease of application.

These initial sensemaking results gave the NVIDIA founders, investors, and employees a clear roadmap to follow for what needed to be created, what needed to be done, how they were going to approach building the business, and why.

### Building the NVIDIA Business through Sensemaking

Within 10 years of its founding, NVIDIA became the dominant chip supplier to the gaming industry with its GPU technology. Since then, NVIDIA appears to have followed Clayton Christensen’s Disruptive Innovation model by moving sequentially “upmarket” into applications where faster processing speeds are an emerging requirement.

The disruptive model market progression was first into automobiles (Audi), then high performance data processing (IBM), autonomous driving (Tesla), and most recently artificial intelligence (ChatGPT). Each new growth initiative seems to have been guided by the same kind of sensemaking activity that focused on changing the status quo in the current situation.

Today, NVIDIA has the second largest market capitalization at \$3 trillion, trailing only Microsoft and ahead of Apple. It is estimated that in 2023, NVIDIA GPU microchips have an 80% share of the global GPU market. And NVIDIA accomplished this in less than 30 years.

### Lessons for Entrepreneurs

- Most entrepreneurs have well-developed inventing, introducing, and distributing skills. But the skill of sensemaking seems to be underdeveloped in many cases. The lack of sensemaking skills is often the reason for the under-performance or failure of many entrepreneurial ventures. Conversely, having well developed sensemaking skills seem to be

the launchpad for the most successful entrepreneurial ventures, regardless of their initial skill levels at inventing, introducing, and distributing.

- Some of the most successful companies over the last 40 years, all of them start-ups within this time frame, are Microsoft, Apple, Alphabet (Google), Meta (Facebook), Intel, Amazon, and NVIDIA. Effective sensemaking and a focus on changing the status quo in their own situation were significant driving factors in achieving their success. Each of these successful companies has well-developed inventing, introducing, and distributing skills today. But when they were founded, their skills in these areas lagged behind the companies they were seeking to compete with. The fact remains that the start-ups did a better job of sensemaking than their more established competitors, and this got them started on the right track.
- The status quo model introduced in this paper has been used as a retrospective tool for each of the successful companies. The model has been shown to have explanatory capability. It has also been used for numerous current ventures to provide a clear roadmap to follow for what needs to be created, what needs to be done, how they will approach building the business, and why. Due to the time lag between sensemaking and success, it remains to be proven that the model has predictive capability. But the indicators are positive.
- A venture's success rate depends on several factors -- the "degree of newness," the scope and scale of the venture, the quality of competition, and the experience level of the entrepreneur in the chosen market. But it seems likely that insufficient sensemaking is at the heart of why so many of them fail.