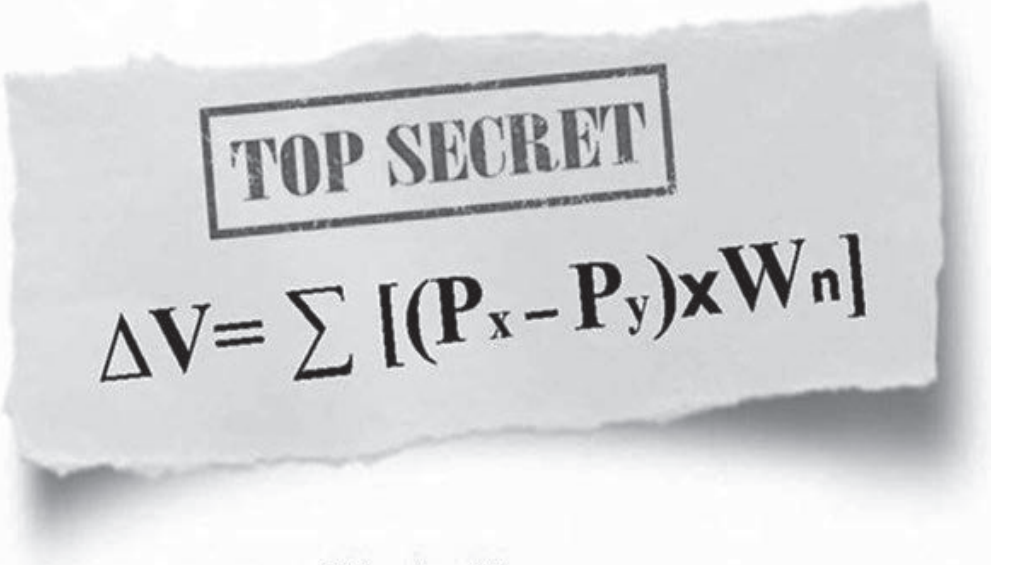
The Innovator's SECRET Formula

for

Innovation, Disruption & Market Leadership



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Preface

"All is flux, nothing stays still—there is nothing permanent except change."
- Heraclitus, Greek philosopher, 475 BC

"According to Darwin's Origin of Species, it is not the most intellectual of the species that survives; it is not the strongest that survives; but the species that survives is the one that is able best to adapt and adjust to the changing environment in which it finds itself."
- Dr Leon C. Megginson, Professor at Louisiana State University, 1963

"The entrepreneur always searches for change, responds to it, and exploits it as an opportunity."
- Peter Drucker, Management Consultant, 1985

Adapt or die. That is the primary law of both nature and of business.

Change is driven by innovation. Innovation, according to economists, is driven by the profit motive and enabled by technology. As Harvard Professor Michael Porter pointed out, the only way to have a competitive advantage is through innovation.[1]

Innovation is both a sword and shield. In certain instances it allows startups to capture market share from established incumbents (sword). At other times it empowers the market leaders to protect their hegemony (shield). As the total amount of technology infrastructure increases, the opportunities for follow-on technical advancements accelerate even faster. This means that the opportunities for disruption also accelerate, which means that there is an ever-increasing range of opportunities for innovators to disrupt incumbents at an ever-increasing rate. Welcome to the age of Hyper-Innovation!

1 https://www.innovationexcellence.com/blog/2011/12/29/michael-porter-on-strategic-innovation-creating-tomorrows-advantages/

As we enter a new golden age of invention it is appropriate that a great deal of the current business literature is focused on "innovation." From Clayton Christensen's seminal book, *The Innovator's Dilemma*, to the book that launched the Lean Startup *The Four Steps to the Epiphany*, *Blue Ocean Strategy*, and more recently *The Lean Startup,* there are many perspectives and theories about how to create, manage and profit from innovation.

Ultimately, *all* these strategies are focused on a single concept—how to achieve Product-Market Fit (PMF). Without a solid understanding of the mechanisms that create Product-Market Fit, the process of achieving high PMF is often random and unpredictable, which means that the most common approach is trial and error, which is often expensive and risky.

There *must* be a better way.

The authors have been fortunate to have had the opportunity to be on the front lines of innovation in Silicon Valley and have experience creating innovative strategies across many industries and technologies. As entrepreneurs, startup executives, and advisers we've helped dozens of companies from startups to market-leading Fortune 500 companies meet the challenges in the age of Hyper-Innovation, where incredible opportunities and catastrophic disruptions are two sides of the same coin.

From our experiences we have distilled a powerful strategic framework we call Quantitative Product-Market Fit (QPMF). The QPMF framework is built around a core insight that we refer to as the "2nd Law of Disruption."

All Disruption is Caused by Changes in Product-Market Fit.

As Marc Andreessen said: "*Product-Market Fit is the only thing that matters… Because, really, what else could it possibly be?"*[2]

We extend the concept of Product-Market Fit to explain competitive advantage for any specified market segment. The QPMF framework provides a numerical measure for competitive advantage which is the

2 Marc Andreessen's Blog https://pmarchive.com/guide_to_startups_part4.html

difference between the QPMF scores of competitive products. We call this measure of comparative competitive advantage "Delta-Value" (or "Delta-V" or "ΔV" for short).

We believe that the size of a product's Delta-Value advantage over its competitors explains most customer behavior and thus all of the resulting key business metrics such as Propensity to Purchase, Market Share, Customer Loyalty, Net Promoter Score, Customer Acquisition Cost, and Lifetime Value of a customer.

The QPMF framework provides innovators with a robust toolkit that helps them to:

- Understand how and why disruption happens
- Anticipate what will happen next in a disruptive situation
- Recognize opportunities and threats sooner
- Identify which attack and defense strategies have the highest chances of success
- Avoid wasting time and resources on ineffective tactics
- Optimize strategies for profitable innovation.

We hope this book will be useful to anyone whose goal is to create profitable innovations.

Now let's go create some Delta-Value!

Chris Sorensen
Matt Brocchini
Neil Kane

Chapter 1
Welcome to Hyper-Innovation

"It is change that always provides the opportunity for the new and different. Systematic innovation therefore consists in the purposeful and organized search for changes."

–Peter Drucker, "*Innovation and Entrepreneurship*"

The First Law of Disruption

Disruption Comes to Us All

Disruption comes to us all. Every business, every market and every job will eventually be changed or affected by technology innovation. Much of that change will result in disruption or "creative destruction"; new companies and new jobs will be created, old companies and jobs will cease to be needed.

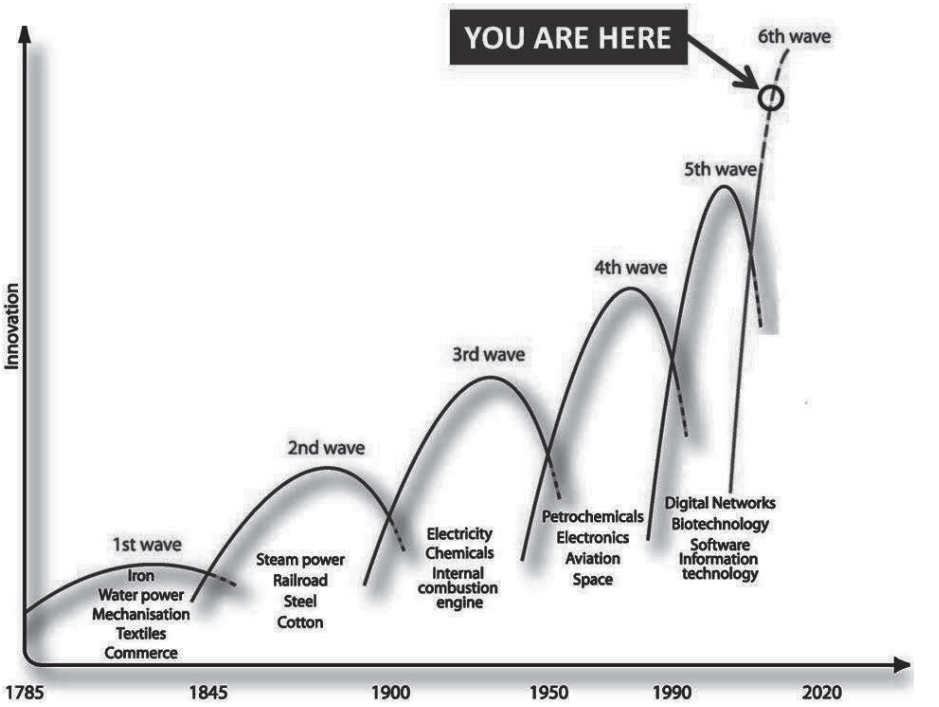
All successful innovations must create some sort of new value. Some will greatly aid humanity and improve the global quality of life; others may be more trifling. But most innovations are driven by the profit motive and the desire to create a strategic advantage that improves (or protects) profits. The continuous competition for profits is the engine that drives an ever-accelerating race for innovation and the expanding base of technical knowledge that enables it.

Since the beginning of the industrial revolution, innovation has come in waves. Each wave starts with the introduction of a new *foundational* technology (waterpower, steam power, electricity, oil, electronics, networks, DNA sequencing, etc.) that enables a new ecosystem of companies to form around it creating tremendous new wealth and social benefits. Then, when growth slows, it ends in a global recession.

Each technology-driven economic wave builds on groundwork and infrastructure created in the previous wave, so each new wave is larger and comes faster. These innovation waves led Joseph Schumpeter to his famous

theory that capitalism is an evolutionary process of "continuous innovation and creative destruction."[3]

We are now entering the sixth wave of innovation and destruction since the beginning of the industrial revolution. This sixth wave will not only be larger and faster but also has the potential to create an entirely new pattern of high speed and high impact innovation waves. According to inventor and futurist Ray Kurzweil, more world-changing innovations will be developed in the next 20 years than were produced in the previous 100 years. This high rate of change has the potential to surpass the ability of most companies to adapt.[4]



Source: The Natural Edge Project

Welcome to the Age of *Hyper-Innovation!*

3 http://en.wikipedia.org/wiki/Schumpeter

4 https://singularityhub.com/2016/03/22/technology-feels-like-its-accelerating-because-it-actually-is/

Why should this sixth wave represent a "quantum leap" from the historic pattern of slow growth to the new normal of Hyper-Innovation?

First, the rate at which we are creating new knowledge is accelerating. Futurist Buckminster Fuller created the "Knowledge Doubling Curve" when he noticed that prior to the year 1900 it took between 100 to 200 years for the total amount of human knowledge to double. By the end of World War II, the rate of human learning had accelerated significantly, and human knowledge was doubling every 25 years. By 1982, it was doubling every 12-13 months. IBM estimates that with the growth of the "Internet of Things" human knowledge will double every 12 hours.[5]

Second, the rate at which we are creating new inventors is accelerating. One of the crucial differences from the past is the tremendous increase in the size of the educated and digitally connected global population. The increase in the global population means there is now more "human capital"—knowledge workers who have strong minds, not just strong backs—and many more discoverers, inventors and innovators. In addition to having more knowledge workers, the proliferation of affordable computers connected to the Internet has dramatically increased each person's ability to learn and innovate. The Internet enables discoveries, creations, and inventions to rapidly spread around the globe, where other innovators can use them as a starting point to launch their own new innovations.

Third, the age of Hyper-Innovation will change the rules and fundamental goals of business. It will tilt the playing field to change the "home field" advantage from the big to the smart, from the dominant to the fast, and from the well-known to the well-loved.

Here is a countdown list of the Top Ten implications of the age of Hyper-Innovation:

Implication 10

Intellectual capital will become much more important than physical or monetary capital.

5 https://www.modernworkplacelearning.com/cild/mwl/the-effect-of-information-explosion-and-information-half-life/

Intellectual capital (knowledge) is the new primary source of value creation. Here's how Walter Wriston, the former Chairman and CEO of Citibank, in *The Twilight of Sovereignty*, put it:

> *"The new source of wealth is not material; it is information, knowledge applied to work to create value. The pursuit of wealth is now largely the pursuit of information, and the application of intellectual capital to the means of production."*

For most of human history money has been more important than ideas (which are typically priced at a dime a dozen). But what are the implications of entering an era where *ideas* are cheap to realize and, as such, the value of intellectual property becomes much more valuable than the money it costs to create it?

For example, it is now easier for two college students in a dorm room to create a website (for "free") that creates a new industry (and topples existing industries) than it is for huge companies to lock-out competitors in a misguided attempt to prevent disruption.

Having control of land, labor, money, and machines ("capital") will no longer be a guarantee that one can control the method of wealth creation. In fact, infrastructure will become a liability when capital is less important than knowledge.

In the age of Hyper-Innovation, knowledge is not only power, knowledge is also the primary source of wealth creation.

Implication 9

Boundaries will blur. Barriers will fall.

The barriers that once protected profits by keeping markets separate are blurring, as the whole world becomes more transient, globalized, and more digitally accessible 24 hours a day. The internet and wireless technologies have removed geographical, language, cultural, economic and product category boundaries that used to protect companies from lethal levels of competition.

In the age of Hyper-Innovation, as boundaries fall, new competitors can come from anywhere. Consider the examples of Walmart and Amazon.

Walmart dominates traditional retail by selling products at low prices with low profit margins but high sales volume. Walmart has removed conventional geographic boundaries and barriers by importing an estimated 40% of their merchandise from lower cost production countries like China. The resulting "Walmart Effect" has been blamed for devastating local retail and grocery stores wherever a new Walmart is opened.

But even Walmart is under competition from the "Amazon Effect." By partnering with third-party vendors, Amazon offers an almost infinite number of products[6] in their online store but without much of the expense of Walmart's physical infrastructure. The lack of retail stores gives Amazon an ability to be quick and nimble—an advantage that Walmart can never match with its current business model.

And speaking of Amazon, Implication #10 is also at play. By opening their network to third party sellers, which they did in 2000, Amazon has been able to grow revenues astronomically without a corresponding increase in physical infrastructure.

Implication 8

Markets are getting larger.

As boundary lines blur and barriers fall, the addressable market for every company becomes global. Once selling into a global market was a privilege limited to only huge transnational companies. But now in the age of global Hyper-Innovation, even start-ups have global ambitions and the means to achieve them.

For example: Airbnb, an internet company that creates a global market for people to find and rent private rooms, became an overnight global

6 According to Retail Touch Points, Amazon sells over 12 million products itself, but third-party sellers on Amazon's website collectively sell over 353 million products! https://retailtouchpoints.com/resources/how-many-products-does-amazon-carry

phenomenon fueled by international travelers seeking a lower cost and more friendly alternative to the hotel industry. Notably, Airbnb also has a market capitalization higher than any traditional hotel chain despite not owning any real estate! The same is also true of Uber. They have become the largest transportation company in the world despite not owning any vehicles. Such is the nature of disruption.

In the age of Hyper-Innovation every company can be instantly global. This is especially true if one can avoid building physical infrastructure as did Airbnb and Uber.

Implication 7

New products and services can be created faster and less expensively than ever before.

The advancement of digital production tools, including 3D design and printing, and automated CNC manufacturing, now allows new products to go from concept to market faster and with less required capital investment than ever before. Online services such as social media platforms, and online exchanges and markets, require very little capital investment but can create huge rewards—so digital services of every type imaginable are exploding. This has accelerated the already growing trend of product and service proliferation, resulting in *more of everything*.

Hyper-Innovation drives Hyper-Product creation, where fortunes can be made (or lost) almost overnight.

Implication 6

Markets are getting smaller.

As it requires less capital to create new products, companies can expand product lines further down the "Long Tail"[7] of the market more economically. This creates an increase in finely differentiated products each targeting a micro-niche.

7 See http://en.wikipedia.org/wiki/Long_tail

Chris Anderson elaborated on the concept of the Long Tail in his book "*The Long Tail: Why the Future of Business Is Selling Less of More."* The term "Long Tail" describes a product proliferation strategy of selling a larger number of unique items into smaller niche market segments but with a relatively small quantity sold of each.

As an executive from a major CPG company said,

> *"We used to think that a product had to be able to achieve 50% market share to be a success. Now we can be successful with products that only achieve 5% market share."*

Burger King was right. You can now finally "*Have it your way*."

A negative implication of this abundance of product diversity is that having more choices, and more competitors, also means more noise. It may become harder and more expensive to create a message that can cut through the clutter and deliver it with cost effective accuracy.

Implication 5

Markets are faster and more efficient.

We use the term "Market Fluidity" to describe how quickly and easily a market can respond to new innovations. Historically most industries (other than technology) have been highly viscous and slow moving. Most new product introductions happened on an annual basis, perhaps unveiled in unison with competitors at the industry trade show. While slow moving, highly viscous markets can be an impediment to introducing new products, they also benefit the incumbent firms because they dampen the speed and impact of innovations, allowing them the luxury of responding slowly and carefully.

The days of slowly changing markets are rapidly fading as we enter the age of Hyper-Innovation, Hyper-Product creation, and Hyper-Information sharing. Markets are quickly becoming more fluid and more reactive now that every customer has access to up-to-the-minute information and analysis on any product or service (e.g., through services such as Amazon.com or Yelp.com).

This is great news for innovators: posting a video of your better mouse trap on YouTube or Kickstarter can go viral globally in a few days, and customers around the world can order it online.

Consider the case of designer watch startup Filippo Loreti, which entered the market by debuting four new watch designs on Kickstarter in 2015. Kickstarter supporters placed $1.1 million in pre-production orders, allowing the fledgling company to establish a production agreement with a high-end watch factory in China, and adding the company to Kickstarter's top 20 list of most-funded projects. The next year, in 2016, the company expanded its product line with four new timepieces and raised another $5.6 million on Kickstarter.[8]

As markets become more "fluid" and change more rapidly (with lower capital requirements), incumbents will have to step up their innovation game just to stay competitive and relevant in a faster changing world.

Implication 4

The lifespan of all products is shrinking.

For Blockbuster Inc., renting video tapes (and more importantly, charging high late fees) was a nice little cash-cow business for 25 years, until 2002 when Netflix started disrupting their core business model by offering a DVD-by-mail service. Blockbuster did not recognize Netflix as a potentially lethal competitor because Netflix lacked any physical locations and offered *slower* DVD delivery by mail. But rarely do disruptors compete head to head directly against incumbent "strengths." Although it took longer for customers to get DVDs through Netflix, Netflix nonetheless provided better *overall* customer satisfaction through better pricing, selection, and service. Netflix excelled in the areas that mattered most.

Burdened with $900 million in debt, Blockbuster was unable to adapt to the rapidly changing environment and declared bankruptcy eight years later in 2010. The next year Netflix had to reinvent itself and switch to streaming on-demand video in order to protect its core customer base from other streaming competitors. Netflix adapted; Blockbuster did not.

8 www.insidehook.com/article/style/best-watches-filippo-loreti-kickstarter

The ten-year lifespan of Netflix's DVD-by-mail offering was *less than half* of the 25-year lifespan of the Blockbuster business model that it disrupted.

In the age of Hyper-Innovation, even when one creates a disruptive and market leading product, the profitable lifespan may not last as long as it once did. As the level of technical infrastructure expands and the rate of innovation increases, the profitable life span of most products will continue to shrink even faster.

The age of Hyper-Innovation will have a dramatic impact on companies trying to create products and services that can retain sufficient market share long enough to provide an attractive return on capital.

Implication 3

The lifespan of companies is shrinking.

Due to a century of breakthrough medical innovation, people now live longer. The average human lifespan has increased by fourteen years, from 61 years in 1937 to over 78 years today in the US.[9]

But in the age of Hyper-Innovation, companies are dying younger.

One measure of this is the length of time that leading companies spend listed in the S&P 500 Index before they are replaced with newer and more relevant companies. According to a study by strategy consulting firm Innosight,[10] the average time a company is included in the S&P 500 has been shrinking and the rate of change is expected to continue to accelerate. In 1965, the average tenure of companies on the S&P 500 was 33 years. By 1990, it had shrunk to 20 years. Innosight expects the increasing rate of disruption to reduce it to 14 years by 2026. This means that half (250) of the S&P 500 companies are expected to be replaced over the next 10 years.

In recent times many household name companies, such as Eastman Kodak, National Semiconductor, Sprint, US Steel and the New York Times, have been dropped from the Index and replaced with younger companies, such

9 https://data.worldbank.org/indicator/SP.DYN.LE00.IN?locations=US
10 https://www.innosight.com/insight/creative-destruction/

as Facebook, PayPal, Level 3 Communications, Under Armor, Seagate Technology, and Netflix.[11]

In the age of Hyper-Innovation, it is estimated that in the next fifteen years, 375 companies (75%) of the market leading companies currently listed in the S&P 500 will be banished into obscurity and replaced by new disruptors.[12]

Implication 2

Every industry, company, product and job will experience significant change or be disrupted.

The global economy is now a seamless interconnected ecosystem of business relationships and transactions enabled by technologies. Technical innovations (e.g., personal computing, tablets, cloud, mobile, e-commerce, m-commerce, social, security, etc.) quickly ripple through the ecosystem from one company to another and shape each company they touch.

Major "meta-trends" such as digitization, mass customization, and low-cost specialization will broaden the range of value that must be offered in order to stay competitive. This means that every employee will have to "do more with less" but will be given powerful tools in which to do it.

Employees who cannot learn to use the new tools to increase their value fast enough will become bottlenecks that hamper the competitive effectiveness of the entire organization.

Organizations that can't adapt fast enough will quickly become overrun by a rapidly rising sea of innovative micro-competitors (many focused on indefensible micro-niches).

Implication 1

You're next.

11 https://www.inc.com/ilan-mochari/innosight-sp-500-new-companies.html

12 http://m.technologyreview.com/view/519226/technology-is-wiping-out-companies-faster-than-ever/

As you'll see in the next chapter, the First Law of Disruption is:

Disruption comes to us all.

Those companies that understand the implications of the age of Hyper-Innovation, and that can develop sound innovation strategies, will thrive at the expense of those that can't.

The first step to thrive in the age of Hyper-Innovation is to understand the fundamentals of how disruptive innovation happens and how you can use it as both a sword and shield.

Chapter 2
The Three Laws of Disruption

"Never before in history has innovation offered the promise
of so much to so many in so short a time."
- Bill Gates, Founder of Microsoft Corporation

"The enterprise that does not innovate inevitably ages and declines.
And in a period of rapid change, such as the present…the decline will be fast."
- Peter F. Drucker

Since Clayton Christensen first coined the term "disruptive innovation" in 1995, it has become widely used—and even overused. The concept of "disruption" has been discussed, analyzed, defined, and debated, but for our purposes we will offer our own simple and practical definition:

"A profitable disruption occurs when one product significantly increases its market share at the expense of another."

Three laws govern all disruption and profitable innovation. Like the laws of physics, they define the environment in which innovation and competition take place.

The 1st Law of Disruption

Disruption comes to us all.

Innovation and disruption will affect every business, every market, and every job. Whether it is from the acceleration of new and improved products, changes in market preferences, changes in business models, or innovations yet un-dreamt, every company will need to be able to respond and adapt more quickly *and* more intelligently. Those that understand how and why disruption occurs (see the 2nd Law of Disruption below) will have a significant strategic advantage over those that don't.

The 2nd Law of Disruption

All disruption is caused by changes in Product-Market Fit.

For one product to increase its market share at the expense of another, the disruptive product must provide better overall customer satisfaction or benefits than the product it displaces. Note that the higher satisfaction may come from improvements in new Value Dimensions than the incumbent product.

The 3rd Law of Disruption

"Delta Value," the advantage in Product-Market Fit of one product over another, is the primary driver for capturing market share and all other key performance metrics including loyalty, cost of customer acquisition, and lifetime value of a customer.

"Delta-Value" is the difference ("Delta") of QPMF scores between two products. It is a quantitative measure of the difference in the perceived values or benefits between two products, and it indicates how much more appealing one product is for a certain market segment of customers over a competitive product.

Products with high Delta-Value have a distinct competitive advantage over other products, and thus are more desirable, which is what ultimately drives market share expansion and sales growth.

Delta-Value is a comparison of value between two products. The importance of the Delta-Value concept is reminiscent of the old joke about two hikers who are confronted by a hungry bear in the woods. One hiker takes off running, and the other calls out "*Are you crazy? You can't outrun a bear!*" To which the running hiker replies, "*I don't need to outrun the bear—I just need to outrun you*."

The Innovator's Tool Kit

The key to profitable innovation is in understanding the Three Laws of Disruption and how to apply them.

We call these three applications the **Innovator's Toolkit,** which includes:

- The Three ways to change Product-Market Fit
- The Three Types of Product Innovation Plays
- The Two Types of Market Innovation Plays

The Innovator's Toolkit provides a powerful strategic framework that links innovative product design to competitive strategy and profitability. It is well known that starting a new company to commercialize an innovation designed to disrupt an industry is risky; nine out of ten startups fail. But launching a new product from a mature company is also risky; nine out of ten new product launches also fail.[13] One successful innovation, however, can disrupt and then destroy an entire industry while making enormous fortunes for its founders and investors.

New products, and new companies, fail largely for the same reason: the new product lacks enough Product-Market Fit advantage (Delta-Value) to capture a sufficient amount of profitable market share. Simply put, not enough people were willing to pay enough money for the new product to make it viable.

The Innovator's Toolkit provides a new way to understand *why* some innovations succeed but most fail, and it allows innovators to stack the deck in their favor while the product is still on the drawing board rather than after it has been built and launched.

13 https://hbswk.hbs.edu/item/clay-christensens-milkshake-marketing

Chapter 3
Product-Market Fit is the only thing that matters

"Product-Market Fit is the only thing that matters…
Because, really, what else could it possibly be?"
- Marc Andreessen

What is Product-Market Fit?

When Cinderella slid her foot into the glass slipper, the shoe was a perfect fit. Technically speaking the dimensions of her foot and the dimensions of the shoe were a perfect match because her Fairy Godmother had made the shoe *just for her*. Likewise, Product-Market Fit is the degree of match between what customers' value and what a product provides.

Product-Market Fit can be thought of as a magnetic force that attracts and binds customers to products. Higher PMF scores have a greater attractive magnetic force which attracts more customers and creates more market share. The greater the PMF score, the more difficult it will be for competitors to pry customers away, making customers more loyal.

Products with high Product-Market Fit tend to have high loyalty, higher Lifetime Customer Value, Low Customer Acquisition Costs, and higher Net Promoter Scores.[14]

Conversely, products with lower Product-Market Fit tend to have higher customer churn, higher customer acquisition costs, and lower retention and loyalty.

14 http://en.wikipedia.org/wiki/Net_Promoter

In 2009 Marc Andreessen (technology luminary, co-creator of the first graphical internet browser, cum venture capitalist) posted an article to his blog about Product-Market Fit titled *"The only thing that matters to a startup*." While the concept of Product-Market Fit had been around for a long time prior to Andreessen's posting, he did a good job of summarizing and popularizing the concept, and his post quickly became required reading in the startup community.

> *"Whenever you see a successful startup, you see one that has reached product/market fit -- and usually along the way screwed up all kinds of other things, from channel model to pipeline development strategy to marketing plan to press relations to compensation policies to the CEO sleeping with the venture capitalist. And the startup is still successful."*

Along with Andreessen, other innovation experts, such as Steve Blank (*The Startup Owner's Manual*) and Eric Ries (*The Lean Startup*), agree that there are two major phases to a startup's maturation process: "*Before PMF*" and "*After PMF*." The primary objective of a newly launched startup or product is *not* just to "get big fast" as many venture capitalists have urged (primarily to increase their own returns), but rather to first achieve a viable level of Product-Market Fit as quickly and cost effectively as possible, and before the funding runs out. According to a study by the Kauffman Foundation, one of the primary causes of startup failure is "premature scaling," overspending to scale the business *before* an adequate level of Product-Market is achieved.

Andreessen went on to describe some of the humorous impacts of high Product-Market Fit:

> *"You can always feel (high) product/market fit when it's happening. The customers are buying the product just as fast as you can make it - or usage is growing just as fast as you can add more servers."*

> *Money from customers is piling up in your company checking account. You're hiring sales and customer support staff as fast as you can. Reporters are calling because they've heard about your hot new thing and they want to talk to you about it. You start getting entrepreneur of the year awards from Harvard Business School.*

Investment bankers are staking out your house. You could eat free for a year at Buck's."[15] [16]

The Quantitative Product-Market Fit Model

In order to make the concept of Product-Market Fit a useful tool for innovation strategy, it needs to have a way to be measured it quantitatively. Hence the "Q" in QPMF.

A product's QPMF score is a numerical measure of how well the product delivers benefits that customers think are important. A product's QPMF score ranges from 0% to 100% as a measure of overall customer satisfaction. The QPMF model allows one to compare the impact of various product features and design choices based on how they will affect Product-Market Fit score.

The QPMF model is made of two components: ***The Customer Value Model*** and the ***Product Performance Score.***

The Customer Value Model is the set of "Value Dimensions" (benefits) that a customer considers important in making a buying decision. Value Dimensions are not product features per se, but the advantages provided by features such as *Performance*, *Reliability* and *Safety*. Not all Value Dimensions are created equal. Each Value Dimension has a certain "weight" in the customer's mind depending on how important that Value Dimension is to the overall buying decision. Importance Weights are designated as a percentage (0%-100%) of the overall buying decision.

How well the customer believes the product performs in each of the customer's Value Dimensions is measured by the ***Product Performance Score*** for each Value Dimension.

The weighted product performance scores are summed into an overall QPMF score that represents the degree of fit between the customer's perfect product and the actual product.

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15 www.buckswoodside.com

16 https://web.archive.org/web/20091018083103/http:/pmarca-archive.posterous.com/the-pmarca-guide-to-startups-part-4-the-only

The Customer Value Model

Different people buy different products for different reasons; the purpose of the Customer Value Model is to create a quantitative model that describes the specific benefits (Values) that each target market segment cares the most about.

The foundation of the QPMF model is drawn from modern economic theory, which assumes that people make economically rational choices to maximize their "utility" or benefit based on quantifiable preferences. If one knows a customer's value preferences as expressed in the Customer Value Model, then one can make reasonable predictions about which products the customer is likely to prefer based on their overall satisfaction, gratification, enjoyment or utility that each product provides.

The Customer Value Model is based on the following assumptions about rational behavior:

- Customers make rational and therefore predictable choices to maximize their utility.
- Performance in each Value Dimension is subject to diminishing marginal utility. This means that there is maximum limit to the benefit of each Value Dimension, beyond which there is no additional benefit, and in some cases, over-performance could be a liability—also known as "*too much of a good thing*."
- While each individual customer has their own unique Customer Value Model, individuals with similar Customer Value Models can be grouped together into useful customer segments (Buyer Personas) with an acceptable tolerance for variation.
- In order to get a buyer to switch from their current product to a new one, the new product must provide sufficient additional benefits ("Delta Value") to overcome switching costs.

The first step in creating Customer Value Models is to categorize customers into target market segments with similar customer value preferences. Each customer segment can be given a "Buyer Persona" which is an exaggerated stereotype for that segment, such as "Paula Price" (Price is the most important thing to Paula so she only buys the cheapest, not the best), or "Randy Reliable" (Randy is less sensitive to price because he knows that the

best is cheapest in the long run), or "Peter Performance" (Peter is all about burning rubber).

A mature organization likely already has a lot of market research and data from focus groups from which to create Buyer Personas. If historic research data regarding customer purchase drivers is available, it should be included in the customer value analysis. Circumstances, markets and preferences, however, all change very quickly, so having current and relevant market research is critical.

A new startup with a new product innovation will have to conduct its own primary market research (interviews, focus groups, surveys, etc.) to gather enough information about which values each buyer group believes is most important. Many of the reasons for startup failure can be traced back to insufficient direct market research. As startup expert Steve Blank says, "*You have to get out of the building and talk to real customers!*"

While many marketing teams are used to grouping customers by demographics (age, gender, race, income, location, etc.), including demographic stereotypes in the Buyer Personas is optional and may misdirect the focus towards *who* the customers are rather than *why* they buy.

The more accurate the Customer Value Model is, the more effectively you can build profitable innovation strategies. Creating an accurate Customer Value Model is the very essence of really *"knowing your customer*," that is first knowing *who* your customers are (Buyer Personas) and *why* they want to buy your product (Customer Value Model).

One of the most common causes of innovation failures is never achieving high Product-Market Fit due to a flawed Customer Value Model. Often innovators *think* that they know what values their customers want, but they had the wrong Customer Value Model, which resulted in poor product designs that had low Product-Market Fit.

The Customer Value Model has two components. The first component is the set of core "Value Dimensions"—these are the benefits that customers care about most. The second component is the relative importance of each Value Dimension compared to the others.

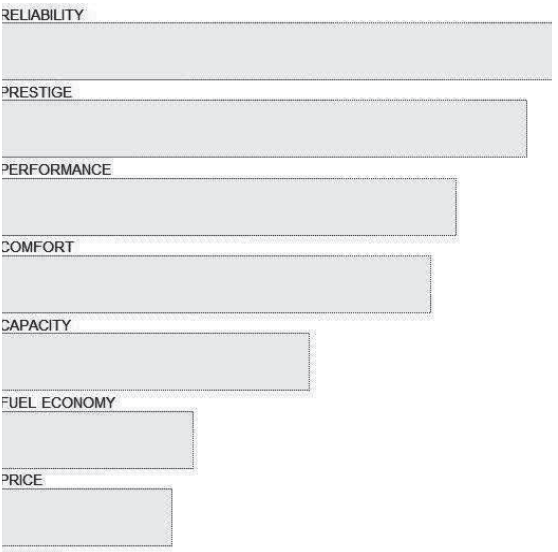
For example, if the product category is automobiles, the important Value Dimensions might include:

- *Reliability*
- *Prestige*
- *Performance*
- *Comfort*
- *Capacity*
- *Fuel Economy*
- *Price*

The Customer Value Model is depicted graphically as a set of Value Dimensions weighted by their importance (the longer Value Dimension envelopes are more important) and ranked in descending order of importance. The Customer Value Model not only shows which values are the most and least important to a specific customer segment, but more importantly it also shows, through its shape, the relative importance *among* the Value Dimensions.

Here is a Customer Value Model for the "Randy-Reliable" target segment who is most concerned about buying a car that is *Reliable* and will last a long time and is least concerned about *Price.*

CUSTOMER VALUE MODEL FOR "RANDY-RELIABLE"



In this example the Value Dimensions *Reliability* and *Prestige* are the most important for this target segment and make the highest contribution to the overall QPMF score. That means that products with higher *Reliability* and *Prestige* will be more attractive to Randy than products with higher performance in the lower, less important Value Dimensions, such as *Price* and *Fuel Economy*. Providing better gas mileage and affordable pricing *will* influence Randy's decision somewhat, but not nearly as much as improving the car's attractiveness in the much more important Value Dimensions of *Reliability*, *Prestige,* and *Performance.*

Note that the concept of Value Dimensions should not be confused with "features." Values are the benefits or "*reasons to buy*" a product, not necessarily feature characteristics of the product itself. It can be difficult for innovators and product designers to distinguish between values and features because they are often tightly linked conceptually in our minds. Value dimensions are abstractions of specific features, which allow the Value Dimensions to act as "conceptual variables," which can represent many possible feature design choices.

Focusing on specific features can severely limit the conceptual range of product designs and thus limit innovation. Authors such as Clayton Christenson and Tony Ulwick distinguish Value Dimensions from features by referring to Value Dimensions as the "*Jobs to Be Done*" that customers want to "hire" (buy) a product to do for them. Exactly how the job gets done depends on the specific feature selection. Remember the old sales adage: "*Sell the hole, not the drill*." There are many possible product designs that could be used to make a hole, including providing a hole drilling service, where the customer merely pays for the hole and doesn't have to buy a drill at all.

In our Value Model example above, let's say that the automotive designers want to increase a car's attractiveness to *Performance* buyers. Note that the Peter-Performance buyer segment has a different Customer Value Model than the Randy-Reliable Model shown above. For Peter, the *Performance* Value Dimension is the most important. In order to increase *Performance* (specifically the time to accelerate from 0-60 MPH), a typical design choice is to use a bigger or more powerful engine. Note that Peter's key Value Dimension is described as *Performance* rather than "*Engine Displacement,"* which is a specific feature choice not a Value Dimension.

Focusing on specific features limits the range of possible designs, and each specific design choice can often have a positive or negative impact on other Value Dimensions as well. Bigger engines are typically more expensive to make, which could negatively impact the *Price* dimension, and they also consume more fuel, which can negatively impact the *Economy* dimension. The QPMF model can be used to estimate the overall effect on Product-Market Fit of design trade-offs, such as using a bigger engine to increase *Performance*, at the expense of decreasing *Price* and *Economy*.

Focusing on the abstract value that the customer is seeking rather than on a specific feature, allows designers to choose from a larger range of possible ways to improve *Performance,* such as using a lighter chassis, or adding a turbo charger. Using a lighter chassis could potentially increase *Performance* while also decreasing costs, thereby improving *Price*. Adding a turbo charger would increase costs somewhat, but it also has the potential to increase *Performance* so much that the car could be sold at a higher price, increasing margin as well as making the car more attractive to the Peter-Performance segment, thereby increasing sales and overall profitability.

This abstraction between features and benefits is essential to unlocking creative options for product design. It also promotes a deeper understanding of how each feature choice can affect a product's overall Product-Market Fit as well as the trade-offs associated with increasing one Value Dimension at the expense of another and the resulting effects on margin, market share, and overall profitability.

While there are a very large number of potential Value Dimensions, they can often be grouped into a few basic categories. Here are a few examples, which are not intended to be exhaustive:

Economic or Financial Benefits

- Affordability
- Economic return
- Total Cost of Ownership

Performance Factors

- Physical properties (*e.g.*, Horsepower)
- Relative performance per unit cost (*e.g.*, Miles per Gallon)

- Perceived quality
- Durability
- Product ecosystem support
- Increased control
- Increased customization

Convenience

- Reduction in costs, time, effort
- Ease of use (low learning curve)
- Improvement in quality of life

Reduction in Risk

- Insurance against risks
- Increased safety
- Future proofing

Psychological or Intangible benefits

- Status symbol / conspicuous consumption
- Pride of ownership
- Peace of mind
- Membership in a tribe or community
- Benefits for society (*e.g.*, "Green" products)
- Strategic positioning for the future
- PR and brand benefits

The Most Under-Valued Value Dimension

Surprisingly, often one of the most overlooked and misunderstood Value Dimensions is the intangible quality of *good customer service*. Studies show that given a choice between relatively equivalent products, many consumers will have a strong preference for the one with the better reputation for customer service.

Customer Service

- Helpful support before and after purchase
- Prompt, pleasant help with problems
- Technical support
- Education and learning curve support
- "No hassle" return or replacement policies

Customer service is an unusual Value Dimension that is apparently deeply misunderstood by the majority of corporate America as evidenced by the appalling lack of good customer service across most industries. Many companies view customer service only as a cost liability, but a necessary evil. According to the American Customer Satisfaction Index, average levels of satisfaction with customer service has been falling since 2017 and reached 76% in 2019.

A report by Onholdwith.com revealed that customers phoning into call centers for a wide variety of industries were most frequently irritated by long waits on hold and other frustrations with companies in telecommunications, airlines, and financial service industries.

A study of the financial impact of poor customer service released by NewVoiceMedia[17] found that consumer businesses with poor customer service lost more than $75 billion to competitors in 2018. That is an increase of $13 billion since the last report in 2016. A study by consulting giant Accenture estimates that the cost of customer switching across all industries in the United States is $1.6 trillion.[18]

The NewVoiceMedia study also discovered an alarming decline in brand loyalty by a staggering 67 percent of customers who have become "serial switchers," customers who switch brands after a poor customer experience. This is a substantial increase of 37 percent over two years. The main reasons customers cited for switching brands include:

- Customers do not feel appreciated.
- Customers are not able to speak to a person who can provide answers or solutions.
- Customers experience rude and unhelpful employees.
- Customers being passed around to multiple people and having to restate the problem.

17 https://www.newvoicemedia.com/en-us/resources/serial-switchers-swayed-by-sentiment-how-bad-emotive-customer-experiences-are-costing-brands-billions

18 https://www.accenture.com/us-en/new-applied-now

A TSM Industry study[19] showed that the mobile telecom industry has some of the lowest customer satisfaction ratings of any industry (along with airlines and cable providers), and thus is plagued by high customer churn.

Collecting data from 36 mobile providers across 24 countries revealed that customer churn rates ranged from 14% to 75% for all customer types. A major motivation to change carriers was dissatisfaction with how they felt they were treated by customer service rather than the product experience. According to the 2018 American Customer Satisfaction Index (ACSI) Telecommunications Report,[20] dealing with call centers remains a significant pain point for telecom customers, noting that "*call centers are the worst part of the customer experience.*"

Since mobile carriers have relatively high customer acquisition costs, losing valuable customers is a serious concern. The average mobile operator spends 15-20% of service revenues on acquisition and retention, compared with the average capital expenditures spent on infrastructure (networks and IT) of just 15% of revenues.[21] This means it is more expensive to attract new customers than it is to provide the service for them. For most industries, and especially mobile telecom, keeping a customer is much less expensive than capturing a new one.

The mobile telecom industry is largely a commodity business offering undifferentiated products. Rather than find ways to make their overall product Value Portfolio (product values plus service values) more attractive to new customers, the industry responded to increasing customer churn by implementing "Roach Motel" strategies (so called by repurposing Black Flag's clever tag line: "*Roaches check in, but they don't check out*").

Telecom companies tried to implement anti-customer churn strategies, which turned out to be anti-customer satisfaction strategies, including long contract periods with high early opt-out penalties and forcing customers

19 https://www.computerweekly.com/blog/The-Full-Spectrum/How-churn-is-breaking-the-telecoms-market-and-what-service-providers-can-do-about-it

20 https://www.theacsi.org/news-and-resources/customer-satisfaction-reports/reports-2018/acsi-telecommunications-report-2018

21 Ibid.

to buy new (expensive) hardware by prohibiting them from transferring their handsets from other carriers. These anti-consumer strategies *may* have artificially slowed customer defections, but they *definitely* increased customer dissatisfaction.

Telecom companies soon realized a not-too-surprising insight that the best predictor of a customer's propensity to switch carriers was having *recently made a customer service call!* In many cases the frustrating experience of waiting on hold for an hour, only then to deal with a long line of ineffective customer service agents who couldn't solve the problem, was enough to convince customers that they should take their business to another carrier, *any* other carrier, even though most people had low expectations of receiving any better service from the new carrier. A bad customer service experience was often the final straw that convinced many customers it was worth it to endure the penalties and hassles of "breaking out" of the Roach Motel in order to escape from an abusive commercial relationship.

Good service is rare in the minds of most customers; almost half (45%) of customers can't remember having a recent successful customer experience. According to a 2015 The Global CX Wakeup Call Report,[22] poor customer service was a primary driver of customer dissatisfaction.

- 30% said the employee they contacted was poorly trained
- 31% said the employee they spoke to wasn't empowered to help
- 29% received inaccurate or conflicting information from customer service.

An Opportunity

Many companies believe that they can maximize profits by minimizing customer service costs. Increasing a product's performance in the *Customer Service* dimension can be extremely expensive, requiring many highly trained service agents and the intellectual and technological infrastructure to support them. Since customer service *seems* to have a low importance for the purchasing decision of many buyers, making large investments in a low contribution Value Dimension appears foolish from a profit maximization perspective.

22 http://www.sdl.com/ilp/cxc/rules-of-customer-experience.html

Customer Service is a type of Value Dimension called a "Table Stakes" dimension because it is a cost that needs to be paid just to be allowed to stay in the game. It is like the "dark matter" of Value Dimensions, something that is hard to measure because it is often only important after the sale (but which impacts the next sale).

On one hand, providing excellent customer service can be expensive, and it may not attract many *new* customers. On the other hand, decreasing the quality of customer service will likely *lose* future repeat customers. So while customer service may not help you capture new customers, it often helps to *keep* existing customers. High quality customer service often increases operating costs, but it can also have an even more positive impact on the lifetime value of loyal customers.

The overall low level of satisfaction with customer service creates an opportunity for new products and new companies that can provide higher levels of customer service. New brands may be able to capture customers switching away from negative customer experiences as a way to "vote with their dollars." In some cases, even an unknown brand may be preferable to the old brand based on the sentiment "*it can't be any worse than what we already have."*

Consider the novel approach to customer service that Southwest Airlines took to provide a better customer experience. According to the 2019 J.D. Powers Airline Customer Service study, Southwest was ranked the top airline for customer service with a record setting 81.7% satisfaction score.[23]

They streamlined their ticketing systems and gave their customers more freedom to sit where and next to whom they choose by eliminating assigned seating. And they injected the new and previously unheard-of Value Dimension of *Humor* into their customer experience. Only on Southwest will you hear a pre-flight safety briefing that includes wry statements like *"If you are seated with children, when the oxygen masks deploy please pick your favorite child and place the mask on them first."*

23 https://www.jdpower.com/business/press-releases/2019-north-america-airline-satisfaction-study

Upgrading their technology systems was undoubtedly expensive, but allowing their agents and flight attendants to "*break the fourth wall*" in the high stress travel industry with a friendly wink and a nod to weary travelers cost them nothing.

Weighting the Importance of Each Value Dimension

The second component of the Customer Value Model is the relative importance or "weight" of each Value Dimension in making purchase decisions by that customer segment. The percentage weight of each dimension is between 0% -100%, and the sum of all weights must equal 100%.

Market researchers can use a variety of different methods to capture or estimate the weight of each Value Dimension. We use a very simple customer survey process that works quite well.

First, to capture a list of likely Value Dimensions, we ask a group of current customers, potential customers, competitor's customers, and even non-customers to list the criteria that they consider the most important in making their buying decision. Customers will often initially provide a mixed combination of both features and benefits, which can then be organized into Value Dimensions.

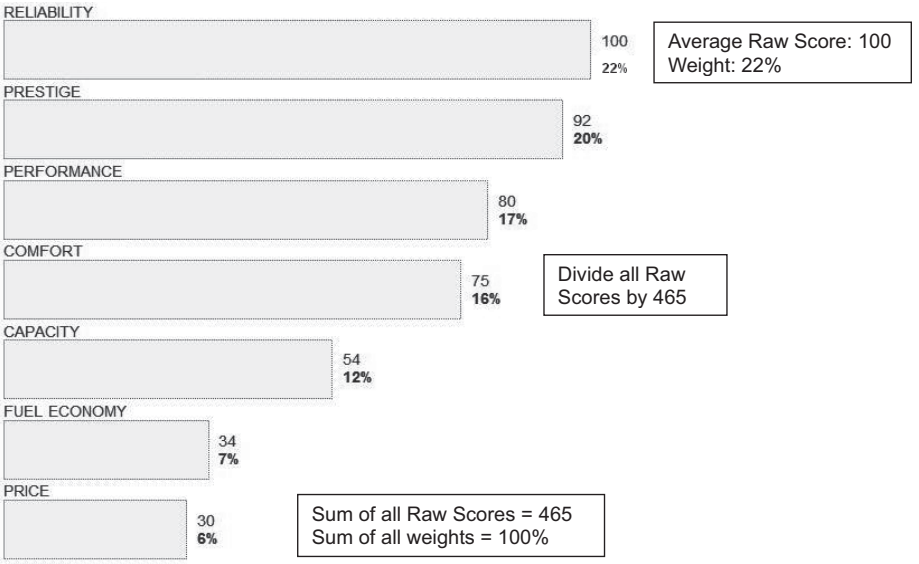
There may be additional Value Dimensions that respondents may not have thought about, including psychological or social benefits, such as *Pride of Ownership* or *Status,* which are rarely top-of-mind for most respondents.

Each customer focus group respondent is asked to rank the importance of each Value Dimension to their buying decision on a scale from 0 to 100. Responses are sorted into Buyer Personas categories based on the similarity of the raw scores. Raw scores in each Buyer Persona category are averaged together to create a Customer Value Model for each Persona. Then the raw importance scores for each dimension are converted into a percentage weight by dividing each raw importance score by the total sum of all scores.

Customers can often come up with a long list of all possible features and benefits, but usually there are only a few *critical* dimensions that are much

more important than the rest. After the top few critical Value Dimensions, the importance Weight of the remaining dimensions usually decays rapidly, which creates the classic "crescent" shape of the Customer Value Model chart.

Converting Raw Scores into Value Dimension Weights



Each Value Dimension is ranked by importance from 0 to 100. This is called the Weight of the dimension, and it indicates how much impact that dimension has on the purchase decision.

Note that it is more important to get the "shape" of the Customer Value Model correct (the relative weighting *between* Value Dimensions) than it is to have "precise" estimates of the actual weight of each dimension.

Weight	Importance in Purchase Behavior
0	Irrelevant. This dimension has no value to customers.
1-30	Not very important. Has a small impact on buying decisions. Performance in this dimension is unlikely to drive purchase behavior unless two products are in very close neck-and-neck competition.

Weight	Importance in Purchase Behavior
31-50	Important.
51-100	Very high importance. These are the Value Dimensions that will have the greatest impact on purchase behavior.

The Risk of Rationalization

A note of caution here, however; in most cases people actually *do* make rational choices that can be well modeled using the QPMF framework, but in certain cases people may *rationalize* their decisions by scoring some Value Dimensions higher and others lower than they actually deserve.

A good example is the area of luxury products. Economists define a luxury item as something for which people are willing to pay much more than its normal perceived utility is worth. But this definition is based on a misunderstanding of a luxury buyer's Customer Value Model, which is often exacerbated by the customer's own subconscious attempts to rationalize (distort) their own buying behavior.

Consider one of our favorite examples, women's designer handbags. Comparable pieces of high-quality leather "luggage" sell for $75 to $150, but a "designer" handbag by a leading fashion brand, such as Coach and Marc Jacobs, typically cost $500 to $10,000. In 2017, a pink crocodile-skin Hermès "Birkin" handbag with gold and diamond hardware set the world's record for the most expensive handbag ever bought at auction: $223,000[24] (which is just about the median US home price). How can such an extravagant price be explained for a handbag?

Even at "mid-range" prices around $1,000, women are clearly not buying handbags as a form of utilitarian "luggage." Yet there must be some high importance Value Dimension that warrants such a high price. Men all over the world are desperate to know what it could be.

Someone posted this very question on the question and answer social media website Quora.com:

24 https://fortune.com/2015/06/23/hermes-birkin-investment/

"Why do women buy luxury designer handbags (e.g., those that cost $400 or more)?"[25]

Many people responded to the question with their own explanations and rationalizations. Some of the most frequent explanations were that designer bags are made with very high quality materials and workmanship and thus last longer, retain their resale value, and can even be handed down as an heirloom to future generations (assuming the younger generation shares the same fashion aesthetic years in the future).

An article in *Fortune* magazine also attempted to explain the exorbitant cost of designer handbags by extolling the quality and fine craftsmanship:

"The Birkin is an extraordinarily well-made bag. Each one is handmade by trained craftsmen and can take over 18 hours to make, and that number can be doubled if working on exceptional pieces such as those accessorized with diamonds."[26]

If taken at face value, these explanations create a problem for the QPMF framework as a predictive model. If *Quality*, *Durability* and *Resale Value* are in fact the dominant Value Dimensions, then we could explain a handbag with twice the quality selling for maybe two to five times the price of a competitor, assuming all other factors being equal - but not a 10x to 200x price difference. Even if the craftsman was paid $1,000 per hour for 18 hours, it would still not justify the price. There has to be some other as-yet "invisible" Value Dimension at work.

Let's say that after hearing that there is lots of "easy money" to be made in the designer handbag market you decided to create your own innovative designer handbag. You conduct focus groups and take your market research at face value which says that *Quality* and *Durability* are in fact the dominant Value Dimensions for most of your target customer segments.

You realize that you can improve your new handbags' *Durability* by replacing old fashioned leather with modern space-age fibers like Kevlar®,

25 www.quora.com/Why-do-women-buy-luxury-designer-handbags-e-g-those-that-cost-400-or-more

26 https://fortune.com/2015/06/23/hermes-birkin-investment/

an indestructible polymer used in bulletproof vests. Your new bag would not only last a lifetime but would literally protect the wearer from small arms fire—the perfect accessory for the fashionable secret agent or *femme fatale*.

It's very innovative, but will it sell? You decide to look to see if there are any similar products already on the market. A quick web search for bulletproof handbags discovers that well established fashion brand Louis Vuitton already offers a line of bulletproof luggage like the "Keepall Bandouliere 55" for only $6,700.[27]

A little more searching reveals that unlike the robust designer handbag market, which supports numerous competitors offering a wide variety of products across a huge price range, there are only a very few bulletproof bags in the market in a narrow price range. There are two possible explanations for this: either armored luggage could be a new and emerging product category that just hasn't caught on and matured yet, but could turn out to be very lucrative in the future, or this is a specialty niche which will never enter the mainstream.

How to tell which one is more likely? Some useful insights may be gained by comparing the actual current market to your QPMF model. In mature markets we would expect to see a range of competitive products clustered around the high end of the dominant Value Dimensions. That is, a number of competitive products should be offering customers what they value most. Additionally, in markets that are nearing saturation we would expect to see a rich spectrum of products with many different prices and value propositions adjacent to the market leading products.

But we don't see the kind of products clustered around *Quality* and *Durability* we would expect in the bulletproof handbag market topography. This discrepancy suggests that the self-reported Value Dimensions we captured in our market research are really ***rationalizations*** and do not accurately represent the actual Customer Value Model. Respondents subconsciously over-weighted certain Value Dimensions and under-weighted or neglected others.

27 https://www.bulletblocker.com/louis-vuitton-keepall-bandouliere-55.html

This suggests that there must be other highly important, but "invisible," Value Dimensions that are more important than *Quality* and *Durability.*

As any proud owner of an over-priced designer handbag can tell you, quality and workmanship are important requirements, but designer brands are all about the *psychological* benefits, such as increasing one's projected social status and even "self-love." Painfully overpaying for a designer handbag buys one admission to an exclusive club or tribe that others can't afford. The exclusivity of the price itself is a core value.

As a responder on Quora.com wrote:

> *"It's not the **products** that businesses sell, but rather they sell outcomes and **emotions.** The consumer wants to [adopt] the identity the product is giving them; who do you become [by] carrying this bag? Designer handbags are something that adds to self-love: When we find love from others around us or their attention, it makes our mind and soul healthier. So, designer bags are a must."*

While the connections between egregiously expensive handbags, social status, love and mental health benefits are all questionable, the fact that such connections exist and are meaningful for a sizable consumer segment is significant. Modern fashion brands did not create the new Value Dimension for *Status*, but they perfected the application of it to their products.

The designer handbag example has many significant implications for innovator's using the QPMF model to design new or disruptive products.

1) The Risk of Rationalization. You must know your customer, sometimes even better than they know themselves. Even when customers try to objectively explain their own buying preferences, they may simply not be aware of their subconscious rationalizations that distort their reported customer value model.

2) Market Research and Market Topology. In most markets, products are arranged around key Value Dimensions in a way that is intuitive and expected. Consider seaside cottages, for example. We would expect to see the most expensive cottages nearest to the beach where the primary Value Dimension is ocean views and access. We would

not be surprised to see larger houses set further inland at similar prices to the seaside cottages (more room, but less desirable views). Efficient and mature markets offer consumers a range of choices and tradeoffs across many Value Dimensions. New and emerging industries still have large "white-space" opportunities for innovators to offer new types and combinations of Value Dimensions.

3) Profitability Each Value Dimension makes a unique, but limited, contribution to profitability by its contribution to overall perceived value. Different Value Dimensions make different contributions to profitability and cost. Which means that there is a range of profitability across a product's key Value Dimensions. Some Value Dimensions are very important, but inexpensive to produce, and so are highly profitable. Other Value Dimensions may be less important (but necessary) and are expensive to produce, so they may make a small or even negative contribution to overall profitability.

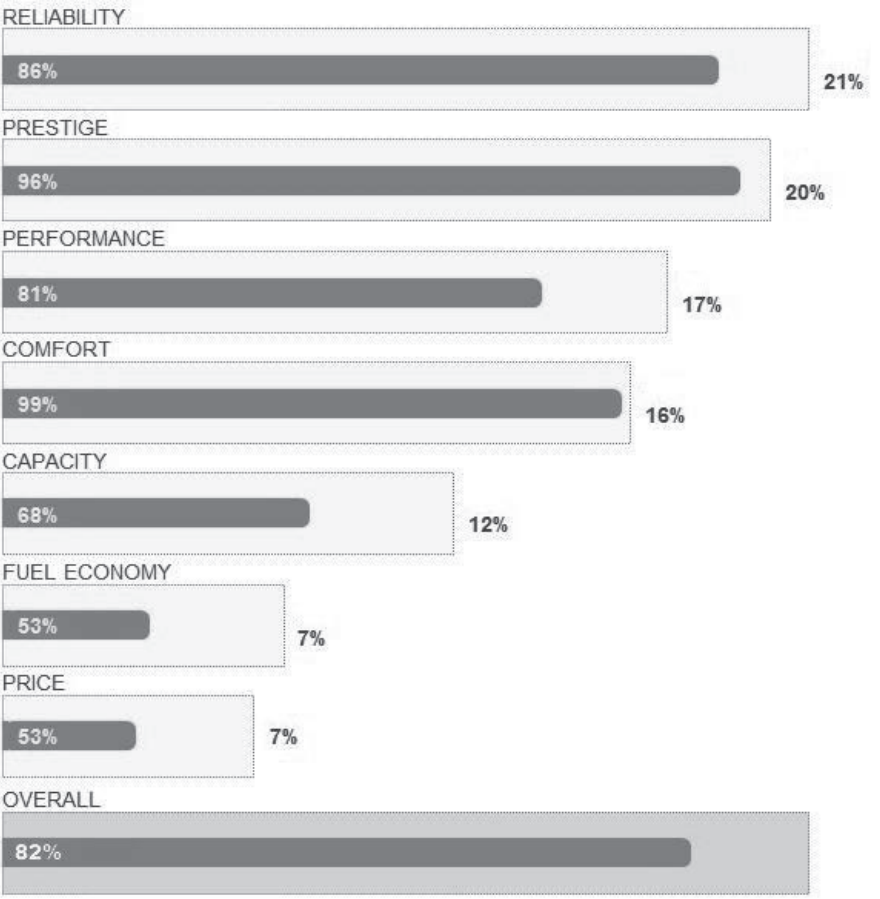
For example, as the designer handbag example showed, some consumers are willing to pay much more for each unit of *Status* than they are for *Quality.* In terms of production costs, *Quality* is expensive to provide, *Status* is not (although developing a brand that is worthy of conveying status can certainly be very expensive). Adding a unit of *Status* is *much* more profitable (up to a point) than adding a unit of *Quality.* If a handbag, however, does not have sufficient *Quality* [Table Stakes], then buyers cannot rationalize *Status* and the handbag will be seen as a pretentious knock-off.

Product Performance in Each Value Dimension

The second component of the QPMF model is customer's perception of how well a product delivers or "performs" within each of the Value Dimensions in their Customer Value Model. Remember that "performance" means "impact on purchase behavior," or less formally, "satisfaction." The more satisfied customers are with a product in Value Dimension, the higher the performance score. Product Performance ranges from 0% to 100% in each Value Dimension.

We graphically depict this performance measurement as lines that "fill up" each Value Dimension envelope like this:

PICKUP TRUCK QPMF CHART



The performance bars represent how well customers believe that a product performs in each Value Dimension. The more the performance bar fills the Value Dimension envelope, the better the fit and the higher the satisfaction in that dimension. In this example the performance in the *Comfort* dimension is almost a perfect 100%. This truck also does well in the primary Value Dimensions of *Reliability* and *Prestige*. Even though it has room for improvement in the *Capacity*, *Fuel Economy*, and *Price* dimensions, those dimensions don't matter as much to this Customer Value Model.

The Overall Product-Market Fit score (82%) is shown at the bottom of the diagram on the Overall Performance bar. The Overall Product-Market Fit

score (or QPMF score) is calculated as the weighted sum of the Performance Score in each Value Dimension times the Importance Weight of the Value Dimension.

Value Dimension	Performance	×	Weight	=	Dimension Fit
Reliability	86%		21%		18%
Prestige	96%		20%		19%
Performance	81%		17%		14%
Comfort	99%		16%		16%
Capacity	68%		12%		8%
Fuel Economy	53%		7%		3.7%
Price	53%		7%		3.7%
QPMF Score					**82%**

Overall, this truck has high Product-Market Fit. While there is some room for improvement, the product designers have focused on providing high performance in the most important Value Dimensions. Given that it is typically not economically feasible to create products that offer 100% satisfaction across all Value Dimensions, the general rule-of-thumb for achieving high Product-Market Fit is to design products that perform well in the most important Value Dimensions first and leave white-space room for improvement in the lower dimensions for future product iterations.

Note that this chart only shows one possible combination of Value Dimensions that led to high Product-Market Fit—other high Fit product designs are also possible by making tradeoffs in the performance between Value Dimensions. For example, if it was more profitable to increase *Performance (#3)* than *Reliability (#1),* then an equally attractive product could be created by increasing *Performance* from 81% to 100% at the expense of reducing performance in other Value Dimensions.

A common question is: "*What does a high score on price mean? Does it mean a high price or a low price?*" A high score in any dimension means a positive impact on customer satisfaction and purchase behavior. One way to think about the *Price* dimension is how "fair" and "reasonable" buyers believe the price is. Buyers who think they are getting a great deal for the money

will rank *Price* high on performance. Buyers who think the product is overpriced will rank it low on *Price* performance.

But *Price* is a unique and unusual dimension and there are exceptions to the rule. Price is often used a proxy for quality. People generally believe that more expensive products are of higher overall quality. In some rare cases companies were able to improve market share by *increasing* the price to increase the perception of improved quality or overall value.

The most counterintuitive example of price signaling is in the luxury goods markets. High prices can be highly valued by consumers of luxury goods, because they create *Scarcity* and *Prestige*. In the case of luxury goods, a price that is too affordable, where just "anyone" could buy the product, can negatively impact buying behavior. In the case of luxury goods, *Price* is counter-intuitive; buyers will rank an expensive price as being *high* on *Price* performance (a benefit), rather than a liability.

What should one think about the overall QPMF score in this example of 82%? Is that good? Is that bad? Is it good enough? Should it be higher, or could it be lower? The answer is: *it depends*. What it depends on is how well the product score compared to competitive products, which will be discussed in the next section.

Chapter 4
The Innovator's Secret Formula

"It's easy—once you know the secret!"
- "TV Magic Cards" Commercial

Many innovators and product designers talk about "achieving" Product-Market Fit, as though it was a binary state variable (yes / no). It is akin to saying that one "crossed the finish line." While it is an achievement to be commended, it leaves out the most valuable and interesting information of in *which place* the person finished. If they finished in first place, they should receive a bigger prize than if they finished in last place.

The same is true of Product-Market Fit. Every product must have a reasonable amount of Fit in order to be viable and survive in the market. But the more important question is how does your Product-Market Fit score compare to the competition? In general, we expect products with higher Fitness scores to have higher customer satisfaction ratings, more market share, higher customer loyalty, and higher word-of-mouth promotions.

Every large, high-value, or high-margin market will attract significant competition, sooner or later. Many, if not most, markets have a winner-take-most structure, where the products with the highest Product-Market Fit become the most popular and hence the market leading products. Being the market leader often conveys additional benefits that create a virtuous cycle, which re-enforces a product's value proposition and further accelerates a product's market share growth,

For example, in the early days of mainframe computers there was well known catchphrase that captured the importance of being the market leader: *"No one ever got fired for buying IBM."* As the Information Technology market exploded, computer hardware leader IBM soon realized that software and

services was a larger market with much higher margins. IBM then set its sights on also being the market leader in developing custom business software to run on their computer hardware.

IBM over-priced their hardware and software to position them as premium products. Buyers quickly realized that IBM was neither the cheapest nor the best. But as the market leader, IBM was able to introduce two critical new psychological Value Dimensions that competitors could not—namely *Plausible Deniability* and thus *Job Security*. Even if the IBM installation project went horribly over-cost and over-budget (which they frequently did), the executive responsible for the decision could keep their job because, *"No one ever got fired for buying IBM."*

The moral of this story is that being the market leader is the most advantageous and desirable positioning for a company; it can create a type of market hegemony that tends to "unfairly" accelerate growth rates and profitability of the market leaders at the expense of market followers. In terms of market positioning and thus market share, "*The rich get richer and the poor get poorer.*"

To be the market leader, a product's QPMF score must not only be higher than its competitors, but it must be high enough to overcome the resistance of switching to a new brand. Unlike horse racing, where the winner can "win by a nose," in a competitive market *how much* better one product is over another is vitally important. To extend the racing metaphor—if two products are "neck and neck" and one product only has a slightly better QPMF score than the other, we would expect both products to have similar market shares (everything else being equal). In the customer's mind the two products are mostly equivalent and interchangeable. To become the market leader one product must have a significant Product-Market Fit advantage over its competitors.

Introducing Delta-Value

The difference in Product-Market Fit scores between two products is the key measure that describes the competitive advantage that one product has over the other. We call this number the "**Delta-Value**" (Difference in Value, or "Delta-V" for short). It is a numeric measure of how much a

specific market segment prefers one product over another. By convention Delta-Value is generally stated as a positive number and is calculated as the difference in Fitness scores between the larger QPMF score and the smaller QPMF score.

Delta-Value = QPMF(1) – QPMF(2)

Delta-Value is a measurement of how much more compelling one product is over another for a specific market segment. We believe that Delta-V is the invisible force that drives all other business metrics from market share and sales growth to long-term profitability. Products with a Delta-V advantage over their competition enjoy:

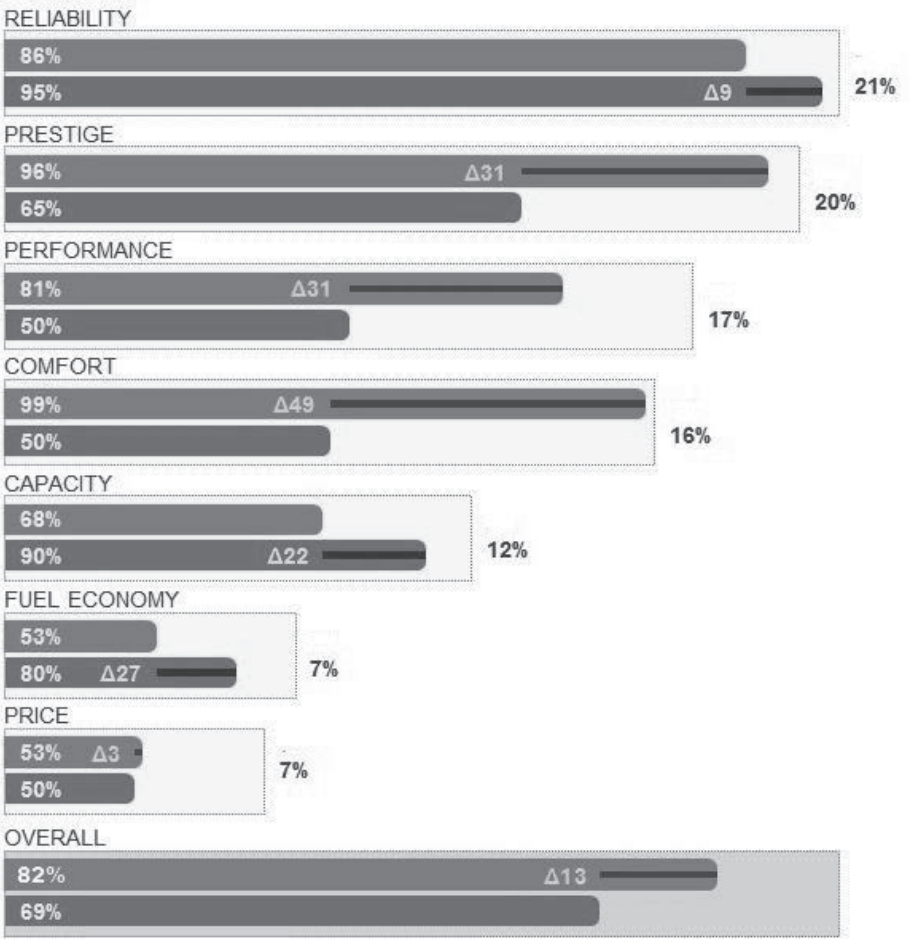
- Increased customer loyalty / lower customer attrition
- Increased market share
- Increased "buzz" and word-of-mouth promotion
- Lower Customer Acquisition Costs (CAC)
- Higher prices
- Lower operating costs
- Increased Customer Lifetime Value
- Higher profitability

Once you understand the QPMF model and Delta-Value in detail, you will quickly see how to answer many critical questions that guide innovation strategy, such as:

- What are the product's competitive strengths?
- Which Value Dimensions can create the greatest improvement in market share?
- How much market share can the product capture?
- What are the product's competitive weaknesses?
- Where does the product have white space that represents a competitive threat?
- What is the risk of disruption from new entrant competitors?
- What innovations by competitors would be most harmful to our market share?
- Where does the competition have white space that can be exploited?
- Can the product achieve Customer Lock-In?

Let's look at an example. In the previous chapter we calculated the overall QPMF for a Truck product to be 82%. Then we asked the question: Is that good or bad? To find out, we need to compare the product to a close competitor, like this:

PICKUP TRUCK QPMF DELTA-VALUE CHART



The QPMF chart is designed to provide a lot of information about the Customer Value Model and the strengths and weaknesses of both products' performance within it. The performance bars of each product clearly show which product has a Delta-V advantage within each Value Dimension, as well as the overall QPMF and Delta-V scores summed up for all Value Dimensions.

Calculating Delta-Value (ΔV): The Innovator's Secret Formula

Now it is time to reveal the Innovator's Secret Formula for Profitable Innovation:

$$\Delta V = \sum[(Px - Py) \cdot Wn]$$

Where:
Px is the performance level of product X in each Value Dimension
Py is the performance level of product Y in each Value Dimension
Wn is the importance weight of each Value Dimension.

In English, this says that the overall preference that customers have for one product over another (Delta-V) is equal to the sum (∑) of Performance of Product 1 minus Performance of Product 2 times the Importance weight for each Value Dimension.

Here is an example of how to calculate QPMF scores and Delta-Value for the example above using a spreadsheet.

Value Dimension	**Performance (1)**	**Performance (2)**	**(P1–P2)**	**Weight**	**Dimension Delta-V**
Reliability	86%	95%	–9%	21%	–2%
Prestige	96%	65%	31%	20%	6%
Performance	81%	50%	31%	17%	5%
Comfort	99%	50%	49%	16%	8%
Capacity	68%	90%	–22%	12%	–3%
Fuel Economy	53%	80%	–27%	7%	–2%
Price	53%	50%	3%	7%	0%
Overall Delta-Value					**13%**

The column (P1-P2) is multiplied by the Weight column to produce the Delta-V for each individual Value Dimension (Dimension Delta-V).

The "Dimension Delta-V" column is summed to produce the Overall Delta-Value (13%).

Now that you know the Secret Formula for creating market leading innovations, you have a new lens through which to view competition and disruption. Understanding how to calculate a product's QPMF score and Delta-V competitive advantage will give you a much deeper understanding of how to develop an effective new product innovation strategy.

The QPMF diagram shows how these two products are competing. Product 1 has focused on performing well in the top three Value Dimensions *Reliability*, *Prestige*, and *Performance* at the expense of not performing as well in the lower, less important Value Dimensions. Product 2 does not have as clear a focus and tries to perform adequately well in most Value Dimensions with a focus on *Reliability, Capacity* and *Fuel Economy*.

While Product 2 outperforms in the top-rated Value Dimension of *Reliability*, Product 1 outperforms in all the other high importance dimensions, including *Prestige* and *Performance.*

The bottom "Overall" line shows that Product 1 has a QPMF Score of 82% and Product 2 has a QPMF Score of 69%, giving Product 1 a Delta-V advantage of 13%. Based on the high overall Product-Market Fit for this target customer segment, and the relatively high Delta-Value advantage, we would expect Product 1 to capture substantially more market share *in this market segment* than Product 2.

Even without knowing anything about the specific products, by analyzing the QPMF chart we can start to get a glimpse of the different product positioning strategies that the product designers may have been trying to employ. Product 1 is highly focused on performing well in the most important Value Dimensions, while Product 2 seems to be less focused and is perhaps trying to appeal to a wider range of buyer segments by offering "something for everyone." This example represents two common product positioning strategies, "sharp focus" or "soft focus," that are both seen across a wide range of products.

To make this example more concrete, let's assume that you work for a new division of an international car company that is seeking new untapped

market opportunities for their light duty trucks. The traditional approach has been to focus on buyers who don't need, or can't afford, a full-size truck. The new disruptive hypothesis is to see if there is a way to add new additional Value Dimensions to light duty trucks to make them more valuable to a new buyer segment. Making them more valuable may also allow them to support a higher price and thus increase their profitability.

Let's assume that Product 1 is your new "Sports Truck" design and Product 2 is a more utilitarian working-man's pickup truck.

The Sports Truck design is tightly focused on a younger, male, urban dweller who wants a distinctive and useful truck for everyday use. We might create a Buyer Persona for him called "Steve-Sportster." Since Steve is single, he wants a nice ride that makes a statement. He likes a fancy, racing themed paint job (*Prestige*), a turbo-charged engine (*Performance*) with racing-inspired bucket seats (*Comfort*). Besides going on weekend camping trips, he also uses his truck (his "baby") as his everyday commuting vehicle—so it is very important that it doesn't have to be in the shop every other month (*Reliability*).

The regular full-sized pick-up truck is intended for a wider range of users, including construction workers, farmers, and even suburban dads. We might call this Buyer Persona "Farmer Fred." Fred is typically a "mature" (middle aged) man who uses his truck to haul equipment and supplies to his work every day. Fred has a very different Customer Value Model than Steve. Features that are important to Steve are not important to Fred, and vice versa.

The company has been selling trucks to guys like Fred for a long time. They know Fred and they like him, because they know what Fred likes in a truck. Unfortunately, the company doesn't know anything about Steve, including if he represents a sizable segment of customers. The company sees creating a new product for Steve as a significant risk, but their market share of traditional pick-up trucks is slowly being eroded, so they must do *something*.

Viewed through Steve's Customer Value Model, the Sports Truck is much more attractive to him than a traditional full sized truck, even though it has significantly smaller bed capacity and has worse Fuel Economy than a

midsized car. Due to some of the fancy "extras" in the Sports Package, it may require a little more maintenance than a full size truck (lower *Reliability*). After seeing the new fancy Sports Truck, buying a traditional pick-up is no longer a consideration for Steve. He is sold on the new truck category, but the last issue for him is the price.

The new Sports Truck seems a bit pricey. It is priced very close to the price of a traditional pick-up but is a much smaller vehicle, and it is ten thousand dollars more than a typical midsized car.

Steve remembers the old adage that the "*best is cheapest in the long run*," and he assures himself (correctly) that his new truck will be much more reliable and last much longer than a car. Even at the higher price, his new Sports Truck is still a great *value* when considering overall cost of ownership per mile driven. With a satisfaction rating of only 53% on the *Price* dimension, Steve feels that he got a fair market price; not a great deal but not a terrible one either.

Note that the importance weight of *Price* is quite low at only 6% of Steve's overall buying decision. He would have been more satisfied with a lower price, but it was not necessary to reduce the price due to the high performance in the other more important Value Dimensions.

In fact, the price could even have been *higher*, which would have reduced Steve's satisfaction in the *Price* dimension, and reduced the overall QPMF score and Delta-Value over the regular truck, but it probably would not have changed his ultimate buying decision. As is true for many products, compared to the importance of the other Value Dimensions, price is rarely the determining factor—although many companies design and price products as though it was.

Steve takes a deep breath and buys his new Sports Truck, and so do a lot of other young men and women who enthusiastically turn a new product into a new category. Soon other competitors enter the new market category you created with their own Sports Trucks. But you are not worried; you've gotten to know Steve and his Customer Value Model extremely well and better than the competition; that gives you a formidable competitive advantage.

Through the new lenses of the QPMF framework you may start to see the world of products and advertising in an entirely new way. You may start to see products as portfolios of Value Dimensions and notice how effective advertising clearly targets a specific consumer group (Buyer Persona) and emphasizes the important Value Dimensions for them. You may start to chuckle when you see ineffective advertising or dubious new product launches and wonder to yourself *"What could they have been thinking?"*

You may start to see markets in a new way; as groups of high value and lower value Buyer Personas, each with their own Customer Value Model of Value Dimensions. You'll start to recognize product-positioning strategies more clearly, as companies vie to compete for the same limited market segments using the same crowded Value Dimensions. You might think to yourself things like, "Everyone is trying to compete on *Price* rather than on *Quality*, and no one is focused on *Customer Service.*" Then you might start flying Southwest Airlines more and eating at Chick-fil-A more often as you enjoy the superior customer service.

Chapter 5
The Innovator's Toolkit

"Fortuna inventivum"
(Fortune Favors the Inventive)

The Three Ways to Change Product-Market Fit

All disruption and profitable innovation are driven by changes in Product-Market Fit. Any time a new product is introduced and starts selling like wildfire, or a company suddenly outperforms its competitors, it is because a change in Product-Market Fit is driving the process.

There are only three methods to change Product-Market Fit:

1. Change the performance of the product within one or more Value Dimensions
2. Change the importance weights of the Value Dimensions
3. Add or remove Value Dimensions.

1) Change the performance of the product within one or more Value Dimensions.

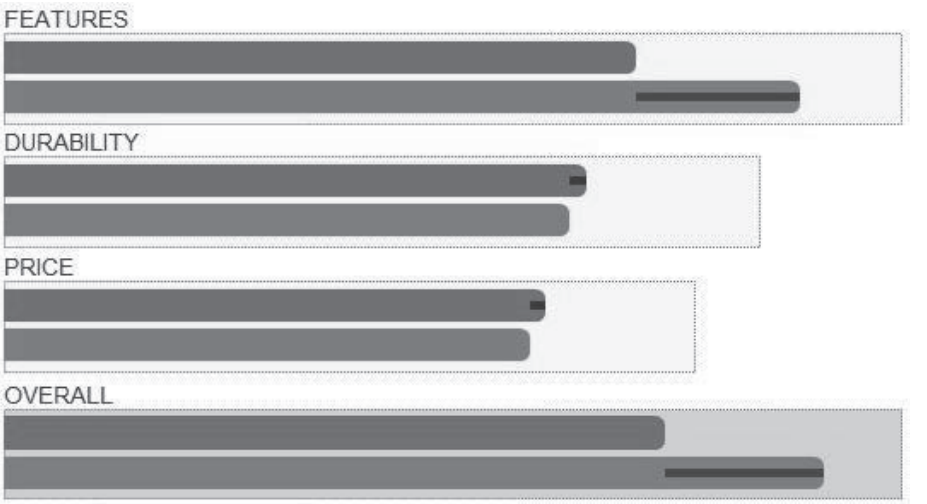
This is the most common type of competitive product change. It is simply making a product better within one or more existing Value Dimensions. You see examples of this everyday, including making a product smaller, bigger, lighter, heavier, faster, cheaper, more durable, more reliable, more delicious, more intelligent, digitally enabled, more beautiful, more prestigious, gluten-free, simpler, more complex, sexier, or low fat.

Harvard professor Clayton Christensen referred to these types of performance-enhancing improvements as "Sustaining Innovations,"[28] as opposed to the more radical "Disrupting Innovations." Let's see what these types of changes look like in the QPMF chart for two products that are competing head-to-head.

28 http://en.wikipedia.org/wiki/Sustaining_innovation

Even though Product 2 has slighter better performance in the top Value Dimension (*Features*), it loses to Product 1 overall because it under-performs in two important secondary dimensions: *Durability* and *Price*.

Now see what happens if Product 2 can significantly increase its performance lead in the top dimension of *Features* (which it is already the best at), and merely reduce its performance gap in the second Value Dimension (*Durability*) to be comparable to Product 1:

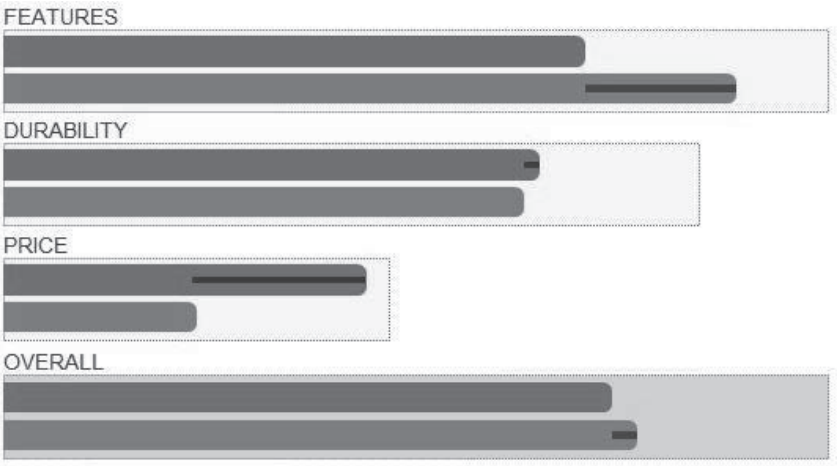


Product 2 now has a significant overall Delta-Value advantage over Product 1. Note that Product 2 did not need to out-perform Product 1 in the second

Value Dimension (*Durability)*, it just needed to improve its performance enough to reduce its competitive deficit so that the primary dimension where it already excels (*Features*), becomes the only meaningful point of comparison for customers.

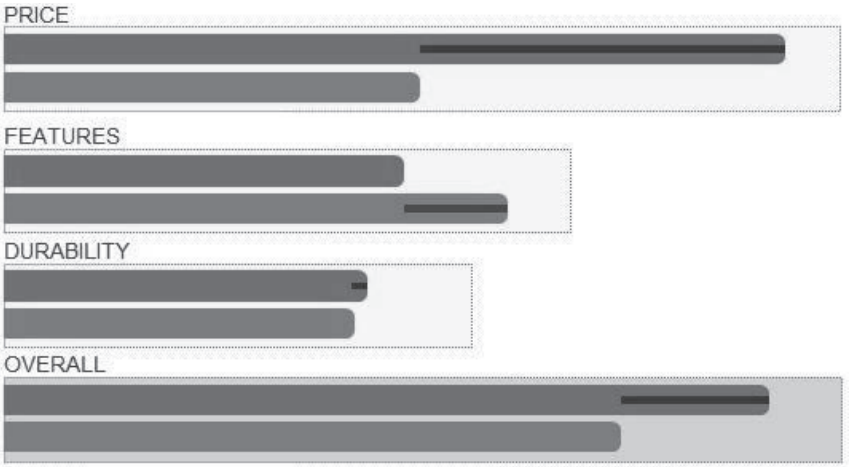
2) Change the importance weights of the Value Dimensions.
A change in consumer attitudes can change the importance weights of their key Value Dimensions and change the entire Customer Value Model. Changes in attitudes can be effected through many things such as marketing campaigns, economic booms and busts, new technologies, new competitive offerings and cultural changes.

For example, consider what could happen to the Product-Market Fit scores of two products during an economic recession. Prior to the recession, the QPMF chart looked like this:



Product 2 has significant Delta-Value advantage in the top Value Dimension *Features,* but it is seen as being more expensive as shown by its poor performance in the *Price* Value Dimension. Since customers currently place more importance on *Features* than *Price,* Product 2 has a slight overall Delta-Value advantage.

Suddenly the economy slides into a recession. People are pinching pennies to save money any way they can and now *Price* becomes the most important Value Dimension. The QPMF chart is reordered to show the change in importance weights.



Suddenly Product 1 has an enormous price advantage over Product 2. Note that neither company has changed any of its product features or price, only the consumer perceptions of importance weights have changed.

The change in the Customer Value Model gives Product 1 a significant Delta-Value advantage over Product 2, which was the previous market leader. With its boost in Delta-Value, Product 1 captures significant market share and becomes the new low-cost market leader - even though it still has inferior features to Product 2.

Keep in mind that the game is far from over. Eventually the recession will end, and consumer attitudes will revert to normal. Price will no longer be the primary consideration. If Product 1 can take advantage of its increased market share and profitability to improve its features, it could potentially maintain its leadership position even after the recession ends.

On the other hand, if Product 2 reduced its prices to be more comparable to Product 1 (potentially by reducing non-critical features) during the recession, then it could potentially maintain its competitive advantage and remain the market leader throughout the recession.

3) Add or Remove Value Dimensions.
The third way to change Product-Market Fit is to add or remove critical Value Dimensions. This explains many, if not all, of the most dramatic cases of disruptive innovation. By adding a new, important Value Dimension

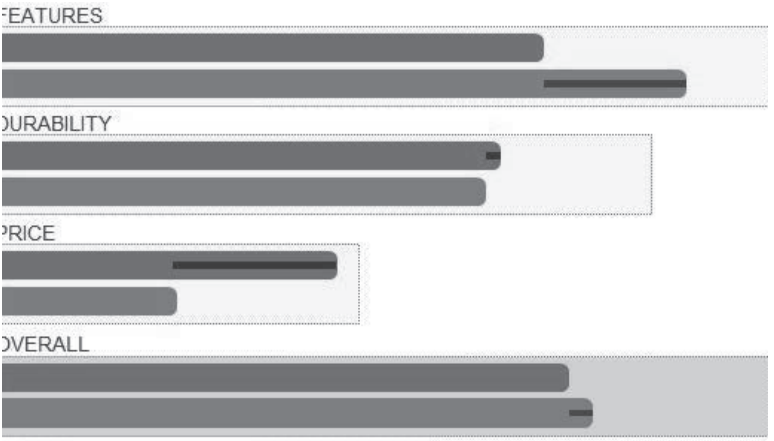
to the Customer Value Model, all the relative importance weights change dramatically.

The classic example of adding a new, unheard of Value Dimension to a mature product is Apple's introduction of the iPhone. The new Apple phone lacked many of the features that the current market leader (BlackBerry) *knew* were critical such as a tactile button keyboard. If all Apple did was to remove the buttons in favor of a flat screen, their new phone would likely have failed due to under-performance in a key Value Dimension.

But Apple introduced several new innovations that completely blew up the Value Model that the incumbents relied on. Apple introduced the heretofore unheard of concept of running applications on a *phone*. Adding the new top Value Dimension of *Applications* was a complete game-changer that re-prioritized the Customer Value Model for *all* buyer segments. It also showed skeptics that an on-screen keyboard was as fast and accurate as fixed tactile buttons—which eliminated one of the most important Value Dimension for the incumbents.

The incumbents were caught off-guard and "flat-footed". Despite their efforts to adapt to the new environment, Apple introduced one new innovation after another at such a blistering pace that the former market leaders were never able to catch up.

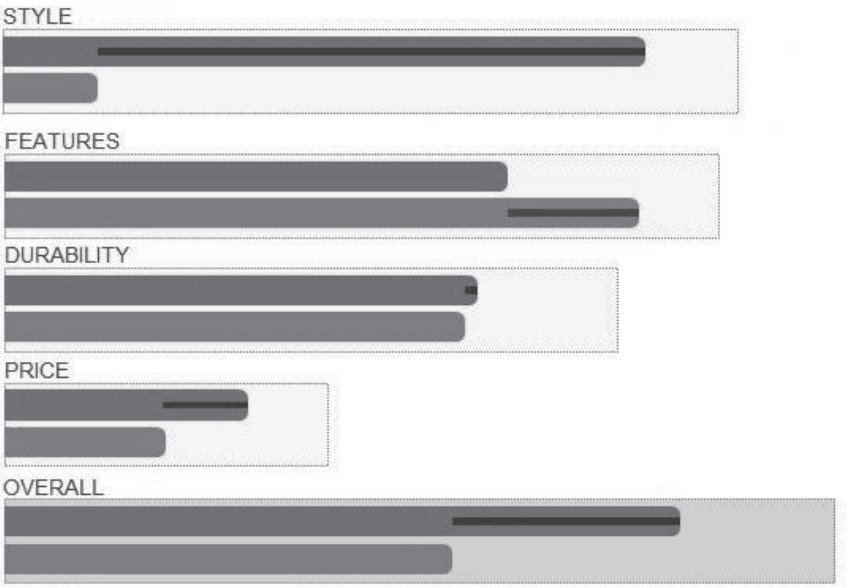
Here is a graphic example that shows the impact of adding a new Value Dimension to the QPMF chart.



Product 1 and Product 2 have staked out different corners of the market. Product 1 is the low-price leader with a significant advantage over Product 2 on *Price,* but it also offers fewer features than Product 2.

The Product 1 team knows that trying to compete head-to-head on *Features* would be a difficult struggle. It is not their core strength, and increasing Features would reduce their advantage in *Price*.

Instead, the Product 1 team decided to innovate the Customer Value Model by introducing "*Style*" as a new Value Dimension. *Style* rapidly becomes an important Value Dimension that carries a lot of weight with customers. Here's what happens:



Style is now the top Value Dimension, which Product 1 clearly dominates, creating a significant overall Delta-Value advantage. Note that even though Product 1 had to raise prices a bit and lost some of its price advantage, the negative impact is completely overwhelmed by the massive Delta-Value boost from adding *Style* and disrupting the Customer Value Model.

Product 1 made a clever strategic move. It traded a small reduction in a low importance Value Dimension (*Price*) for a substantial advantage

in an entirely new and important Value Dimension (*Style*). The move was somewhat risky. If the market had not reacted to *Style* as predicted, they would have traded away some price advantage for adding a Value Dimension with no importance—likely having an overall negative impact on its competitiveness. Fortunately, the Product 1 team was well versed in the QPMF model and had done careful market research!

This is not a good situation for Product 2. Caught off guard, they have very little performance in the new *Style* dimension. They didn't even know that people cared about *Style*, because people *didn't* care about it until Product 1 made them care.

But don't worry there are still many moves in the Innovator's Tool Kit that Product 2 can make. They could try to play catch-up and improve their performance in *Style*, or they could launch a marketing campaign intended to reduce the importance of *Style* in favor of their own strength in *Features*. Imagine an advertising slogan along the lines of, "*What do you want, a product that looks nice, or one that works better?*"

Or they could introduce another completely new Value Dimension that they can dominate, such as *Customer Service*. For example, consider the case of Snap-on® Tools that sells some of the most expensive wrenches in a market crowded with low-cost, low-quality Chinese imports. Snap-on Tools come with a lifetime guarantee. If one of their wrenches should ever break (which they rarely ever do), you can get it replaced promptly, no questions asked, even if you were abusing the wrench by using it in a manner for which it was never intended.

The Motorcycle Wars

How realistic is the fictionalized example above? Could a company really create a new Value Dimension as ephemeral as *Style* and use that as the foundation of a market leadership strategy? That is exactly how Honda won the "Motorcycle Wars" and became a global market leader. The story of how they did it is now taught as a popular business school case.

In the late 1970's, the motorcycle industry was booming (perhaps due to rising gas prices—a change in the market environment). Two of the leading manufacturers at the time were Yamaha and Honda. Yamaha had

just built an enormous factory that allowed it to produce higher volumes of motorcycles at lower cost. Yamaha proclaimed that it was now the world's leading manufacturer of motorcycles.

Honda was another well-respected brand that produced motorcycles that were "feature equivalent" to Yamaha. In terms of customer satisfaction, the bikes were evenly matched, and most consumers would choose between one or the other based on price. When Yamaha built their new factory, Honda quickly realized that the evenly matched game was about to change to their disadvantage. It would be difficult for Honda to compete against Yamaha's advantages in price and volume. Honda needed a game-changing strategy of their own, and they needed it quickly.

Honda used the Judo strategy of using an opponent's strengths against them by introducing an entirely new Value Dimension for motorcycles: *Style*.

The strategy was unproven and financially risky. At that time there was an important reason that *Style* was not an important Value Dimension for motorcycle buyers. Bikes were perceived as utilitarian forms of *cheap transportation,* not fashion statements. Honda took a substantial market risk, betting that it could make *Style* more important than *Price* for a large portion of young, cost conscious buyers.

In 1981, both Honda and Yamaha offered about 60 different motorcycle models. Then, from 1981 to 1983, Honda introduced or replaced an astounding 113 models, effectively turning over its entire product line *twice*. In the same time period Yamaha only made 37 model changes over the same 18 months.

Not only was Honda able to introduce and test a much wider variety of styles and options, but more importantly, Honda succeeded in making motorcycle design a matter of fashion, so that *Newness* became an important attribute to customers.

Compared to the new stylish Honda models, the Yamaha bikes looked old, unimaginative, and unattractive. Yamaha was left in Honda's

dust, and was stuck holding 12 months of unsold (and unsellable) inventory.[29]

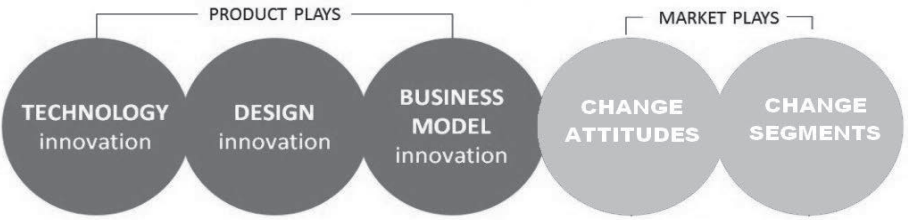
By the end of 1983 the "Motorcycle Wars," were over. Honda had turned impending irrelevance into market leadership by taking a substantial risk that it could change consumer attitudes and insert a new competitive dimension into the global motorcycle market.

29 Stalk & Hout, *Competing Against Time*, P 59

Chapter 6
The Innovator's Playbook

"Never innovate to compete, innovate to change the rules of the game."
- David O. Adeife

The Five Plays in the Innovator's Playbook



You already know that all profitable innovation and disruption is caused by changes in Product-Market Fit. One might think that there are millions of ways to make changes that create disruption and drive profit.

As we have seen, there are only three methods to change Product-Market Fit:

1. Change the performance of the product within one or more Value Dimensions
2. Changes in the importance weights of the Value Dimensions
3. Add or remove Value Dimensions.

Likewise, there are only five strategies ("Plays") that disruptors can use to effect these changes in Product-Market Fit. There are three "Product Plays"—changes to the product that increase its QPMF score, and two "Market Plays" that change the current Customer Value Model so that the current product is a better fit.

The Three Types of Product Innovation Plays

Although they frequently occur in combination, there are only three basic types of product innovation:

1. Technology Innovation
2. Design Innovation
3. Business Model Innovation

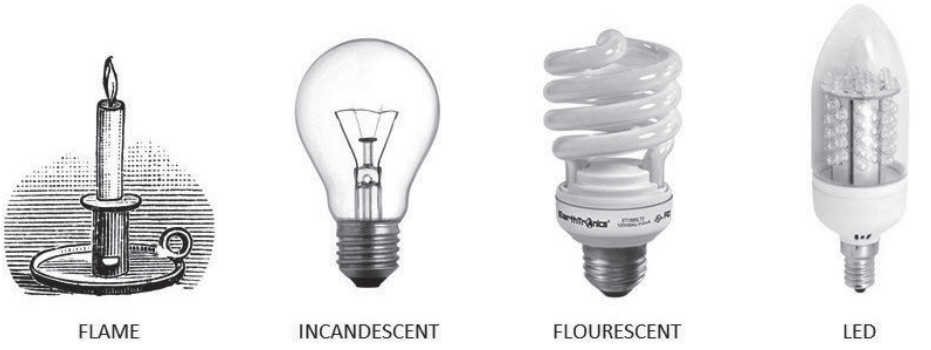
Each of these Plays has its own characteristics. Knowing which one to use when, is critical to developing effective innovation and defense strategies.

Product Play 1: Technology Innovation

Technology innovations are advances based on new scientific discoveries or inventions that create entirely new products or services. They not only improve performance in existing Value Dimensions (sustaining innovations), but they also create completely new dimensions that radically change customers' expectations and thus change the customer value model.[30]

Here are some simple examples of the evolution of technology innovations:

The Evolution of Lighting



30 Our definition follows that of Ashish Sood and Gerard J. Tellis in their 2011 paper *Demystifying Disruption: A New Model for Understanding and Predicting Disruptive Technologies*. This paper is a fascinating analysis of technology innovations. They reach some interesting conclusions about what kinds of companies tend to succeed and how they do it.

Edison's invention of the incandescent light bulb filament was a huge Technological Innovation over the candle flame. Fluorescent lighting was another Technological Innovation based on the discovery of an entirely new scientific principle of light emission: that certain gases (mercury vapor, argon, xenon, neon) would emit light when excited by high voltage.

Later the familiar long straight fluorescent tubes were cleverly twisted to create a Compact Fluorescent Lamp ("CFL", pictured) that used a standard light socket base so it could replace incandescent bulbs. The invention of the CFL is an example of a Design Innovation (using existing technologies in a new way) rather than a new technology breakthrough.

The invention of Light Emitting Diodes (LEDs) was an enormous scientific breakthrough based on the discovery of yet another entirely new scientific principle: semiconductors can emit huge numbers of photons from a low electric current flow. This Technology Innovation was a giant leap forward in light emission technology, creating abundant light for the first time with very little power wasted as heat. The invention of the LED bulb (pictured) was another Design Innovation that integrated LED components into a package that could replace both incandescent and fluorescent household bulbs.

Notice that the pattern of a breakthrough Technology Innovation followed by numerous Design Innovations is found in almost every product category one can imagine.

Scorched Earth Disruption

Technology Innovations can have a devastating impact on products based on the displaced technologies and, in many cases, on the companies that make them. Some Technology Innovations can produce a "Scorched Earth" disruption that destroys an entire industry while it launches a new and better one.

Technology disruptions can be especially harmful to incumbent market leaders that have a large capital investment in the old technology, which they want to amortize over a longer productive lifespan. This makes them reluctant to invest in newer, more "risky" technologies.

Kodak, for example, led the world in photographic film and processing for decades; it was known as a photography company, but it was really a specialty chemicals company. The transition to digital imaging was catastrophic for Kodak for two reasons. First, it destroyed the value of their massive investment in their core competency of chemical processing. Second, it eliminated the most profitable aspects of the photography business by removing consumables (film, paper, processing) and leaving only low margin camera and printing hardware.

Could Kodak have made better decisions? Perhaps, (see this article by Chunka Mui for a summary[31]) but Kodak was facing a Scorched Earth disruption where no viable options were left. Even if Kodak had done a better job managing the transition from film to digital imaging and emerged as the leading digital camera brand (a strategy in which they invested heavily), they realized that the transition to low margin digital hardware still would have been a financial disaster. The market size and margins for cameras and printers were just not as profitable as they were for film and film processing. In 1996, Kodak's revenues were $16 billion. The revenues for the leading camera maker, Nikon, were only $3 billion. Kodak was not going to flourish by becoming another Nikon.

Leading camera makers like Nikon and Canon were able to transition into digital photography, for a while. But they soon faced their own disruption from the Design Innovation of building digital cameras into mobile phones. As the resolution and image quality of the tiny mobile cameras rapidly increased, smartphone cameras have replaced most of the core Value Dimensions of traditional consumer SLR cameras and added other desirable Value Dimensions such as portability and the ability to send the images by text and email.[32] The leading digital camera makers have been forced to retreat from the consumer market into the smaller higher end professional camera market niche.

As smart phones continue to add new capabilities, they are also disrupting other products and industries including cameras, maps, dictation machines, newspapers, books, flashlights, walkie-talkies, and

31 http://www.forbes.com/sites/chunkamui/2012/01/18/how-kodak-failed/
32

music players - all of which are being replaced by smart phones with no end in sight. The authors refer to "Kane's Law", as the principle that: "*If any capability can be added to a smartphone, it will be."* An article in Forbes[33] by one of the authors entitled "*My Smartphone Ate my Fitbit"* describes the concept.

Not every Technology Innovation creates an entirely Scorched Earth Disruption. Magnetic tape did not eliminate vinyl records entirely (and now they are making a comeback). Compact fluorescent bulbs did not eliminate incandescent lamps entirely (although LEDs might). The microwave oven certainly introduced a new scientific principle into cooking, but everyone still needs gas and electric ovens.

Regardless of whether they are facing or creating disruption through Technology Innovation, the key questions for companies to ask are: *How does the new technology perform in existing Value Dimensions? What changes to the Customer Value Model does it introduce?* A QPMF analysis can help you better understand your strategic position (which Value Dimensions have strengths or risks) and can help you make the best strategic choices.

If you are a current market leader with a cash-cow, as Kodak was in 1996, there is some good news for you: Technology Innovations that lead to Scorched Earth Disruptions are rare! But the bad news is that most disruptive innovations do not require a new scientific discovery because they are most often based on Design and/or Business Model Innovations.

Product Play 2: Design Innovation

Design Innovation is the creation of new or improved products using existing technology platforms. Design Innovation is a broad category and includes almost every product one can imagine, from music players and cars to cell phones.

33 https://www.forbes.com/sites/neilkane/2014/06/24/my-smartphone-ate-my-fitbit/

The Sony Walkman

Sony's portable cassette player is a classic example of a simple Design Innovation that ignited an entirely new product category. When Sony introduced its "tiny" (14 ounce) "Walkman" cassette player in 1979, it didn't require a giant leap forward in engineering; cassette tapes had been widely used since 1963. But Sony was an expert at creating well-designed consumer electronics and they realized that there was no convenient way for people to listen to music tapes on-the-go. They found a huge white space in the market that they could capture just by making their existing product *smaller.* Based on their market research of the *social* aspects of how people liked to share music, they included a second earphone jack so that two people could listen together. Sony predicted they would only sell about 5,000 Walkmans a month. To their surprise they sold 50,000 units in the first two months.

Later, Technological Innovations in digital recording would spawn new, even smaller, more functional products, like Apple's iPod, that would end the reign of the Walkman after Sony sold 200 million units.[34]

Chrysler Minivan

Since Chrysler introduced its strange new "Minivan" in 1983, they have owned the market for these highly popular and highly profitable symbols of American suburbia. But it was an uphill battle all the way. As Forbes magazine reported:

34 http://content.time.com/time/nation/article/0,8599,1907884,00.html

"Chrysler's minivan success is a tribute to superior market research and to the extraordinary consumer instincts of Lee Iacocca. He championed the concept at two companies, scavenged the resources to develop it, and fought for its success."[35]

Lee Iacocca was a maverick in the staid auto industry. Unlike most of his peers, he continually fought against the status quo and championed new "risky" products. He made his name at Ford by creating the iconic Ford Mustang, an affordable and fun sports car for everyone. Then he moved to Chrysler and realized that Detroit produced only cars or trucks and really nothing in between to replace the last generation's venerable station wagon. There was no easy way to transport a lot of kids and gear to the soccer game or pick up sheets of plywood for home projects.

To the auto industry the concept of a "Minivan" was neither fish nor fowl, so they hated it. It didn't fit into the well-known customer segments that Detroit had sold to for years, and it certainly didn't fit the established Customer Value Model. Its appeal was based almost entirely on *utility*, rather than style and marketing, which had been the accepted foundation of car sales at the time.[36] Who would buy this ugly thing and why?

When Lee Iacocca joined Chrysler in 1978, the company was in critical financial condition. It had acres of unsold inventory sitting at dealers' lots and its balance sheet was a disaster. Getting the company to take a huge risk on creating a new and unproven vehicle category was going to be a challenge. But somehow Iacocca managed to get the first Chrysler Minivans built and on the road. Sales growth was strong and steady.

Chrysler executives realized that they had created an entirely new category, "We realized that this wasn't just a replacement for the station wagon but a new kind of vehicle and a new kind of market—and a market probably a lot bigger than we had imagined." [37]

35 https://archive.fortune.com/magazines/fortune/fortune_archive/1994/05/30/79354/index.htm
36 Ibid.
37 Ibid.

Car and Driver magazine raved about Iacocca's Minivan, ironically calling it a ''sparkling example" of Detroit's new thinking. The Minivan turned out to be one of the most profitable cars in Detroit. It sold in huge quantities at a premium price without rebates or other marketing incentives.[38] The success of the Minivan made a significant contribution to saving Chrysler and returning it to profitability.

The Minivan is a classic example of a simple (but politically challenging) design iteration. Through their market research Chrysler realized that Moms (and Dads) needed a car that they could do more with on the weekends than just picking up groceries. People needed a new type of car that could accommodate their hectic, busy lives filled with everything from kids and dogs, to soccer gear and science experiments.

Chrysler introduced a strange new Value Dimension for cars, that of *Utility,* at the expense of *Styling* and *Prestige,* which is exactly what "Sally Soccer Mom" needed.

Apple iPhone

While many people think of Apple's iPhone as a new Technology Innovation that wiped out the competition, it was really a Design Innovation. The iPhone was not built on a new scientific principle; cell phones were a mature industry long before Apple entered the market. In fact, all the components used to build the iPhone were already readily available in the market for other products. Apple "merely" combined existing components into a new product design.

The iPhone *is* a marvel of Design Innovation for many reasons. First, it brought together advances in hardware, software, and components (such as Gorilla Glass[39]) in a very effective way. Second, it is a great example of an innovation that initially competed not on primary or secondary Value Dimensions, but instead introduced new Value Dimensions that had not previously existed. Third, its value was magnified significantly by launching new Business Model Innovations for iTunes and, later, the App Store that created virtuous mutually reinforcing feedback loops.

38 Ibid.

39 http://techland.time.com/2013/01/11/a-story-about-steve-jobs-steel-balls-and-gorilla-glass-you-with-the-cracked-phone-read-this/

While Technology Innovations are rare, Design Innovations are ubiquitous and all around us. Most of what people think of as "Technology Innovations" are usually Design Innovations.

Product Play 3: Business Model Innovation

A Business Model Innovation changes the way that products are sold, such as changes in the monetization method, sales model, distribution mechanism, services, etc. Many of the most significant and profitable innovations of the past 20 years have been Business Model innovations. Back in 1999 when people were saying "*The Internet Changes Everything*",[40] what they meant was that old business models, in fact *all* old business models, were about to be disrupted. And they were pretty much right.

Here are some examples of Business Model Innovations that took ordinary products and sold them in extraordinary ways.

ADWORDS

iTUNES

NETFLIX

Google AdWords

Arguably the greatest innovation of the internet era in terms of financial impact is Google AdWords. Before AdWords, most businesses that wanted to advertise on the internet had to invest $10,000 or more to design and place banner ads on websites. With AdWords, one could get started by buying a few key search words about a product for pocket change. In 2012, AdWords generated over $40 billion in revenue for Google; by 2018 that number had ballooned to over $116 billion! AdWords did not really change the concept of internet advertising, but it did change how it was bought, sold, priced, delivered, and monitored.

40 http://money.cnn.com/magazines/fortune/fortune_archive/1999/05/24/260276/

Apple iTunes

It may be hard for people of a certain age to believe that once upon a time you had to buy an entire album if you wanted a few "deep cut" songs for your mix tape. Sure you could buy 45 RPM "singles" (really "doubles" because they had an A and B side) of the "Top 40" hits, but to get the really "good stuff" you had to buy the entire album, and they were expensive!

In classic fashion, the introduction of the MP3 digital recording file format was a Technology Innovation that fundamentally changed the nature of the music industry by giving fans the ability to digitize and share individual songs. The music industry rejected the MP3 technology as "not good enough" and couldn't see how the technology would help them sell more music CDs. What the music executives didn't realize is that MP3 technology made the vinyl album, cassette tape and the CD all obsolete, and, as a result, it replaced Sony's Walkman with MP3 players, like the Apple iPod, and drove once-thriving record stores like Tower Records out of business.

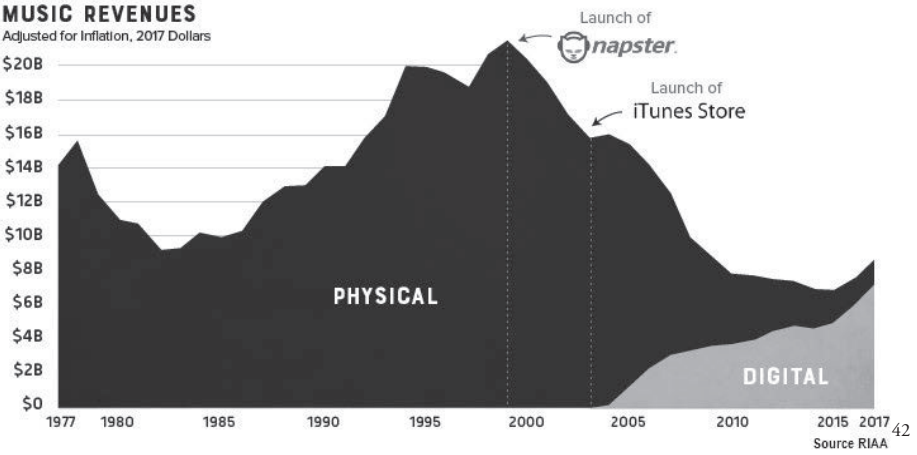
With the rise of online peer-to-peer file sharing services like Napster, CD sales started to plummet. Napster made $99 million in 2000, by helping 80 million people download and share "stolen" music (in terms of copyright infringement) and the music executives finally had to admit that their industry had been disrupted. The Recording Industry Association of America sued Napster out of existence in 2002, which may have made them feel better, but the digital music genie was out of the bottle and was not going back in.

Enter visionary and power negotiator Steve Jobs, CEO of Apple. In spite of the desire of the major music labels to continue to force people to buy entire albums of songs as digital downloads, Jobs crafted a deal that allowed Apple's new iTunes download service to offer any individual song for 99 cents. The iTunes Music Store opened April 28th, 2003, and it was an instant success, starting with the 80 million people who missed Napster.

The music industry executives were right, of course. Forcing people to pay more for an entire album full of songs they mostly didn't want ($20), rather than allowing them to only pay for the songs they did want ($1), was a terrific and profitable business model. In fact, it may be one of the few

business models where selling a product with low Product-Market Fit is more profitable than selling a product with high fit.

Allowing Apple to sell people only the songs they wanted caused substantial losses for the music industry. Album sales accounted for $13.36 billion in 2000, but within fourteen years sales had fallen 86 percent to $1.85 billion. Even though the sales of singles increased by $1.25 billion, overall the music industry declined by 76 percent. [41]



[42]

Music executives may have cause to complain that digital music services like Napster and iTunes "ruined" their industry through a combination of Technology and Business Model innovations, but they should also learn from the experience. "*Disruption comes to us all*", and the next wave of Business Model innovation may eliminate the need for a music "publishing" industry entirely.

The primary value-add that music labels have historically provided is marketing capital, promotional know-how and access to physical distribution. None of these "services" are still strictly required, as the artist "formerly known as Prince" demonstrated when he left his former music label to sell directly to his fans.

41 https://musicbusinessresearch.wordpress.com/2015/03/26/the-recorded-music-market-in-the-us-2000-2014/

42 https://www.riaa.com/u-s-sales-database/

Netflix

Netflix is an interesting example because it combines both Technology and Business Model Innovation with a laser focus on understanding customer preferences. First, it annihilated its primary competitor, Blockbuster, with the mail delivery system for DVDs that it pioneered in the late 1990's. Then it disrupted *itself* with another Business Model Innovation to become both a video streaming service and an award-winning content creator.[43]

Over the last twenty years, the founder and CEO of Netflix, Reed Hastings, has used a continuous process of Technology Innovation and Business Model Innovation to first disrupt the movie rental industry then the video streaming industry. Over the years Netflix has used different technologies and business models but the main driving strategy has been the pursuit of higher Customer-Movie Fit.

Like other innovators before, Hastings realized that the conventional wisdom was at least incomplete if not generally wrong. As Hastings put it, "It's possible to totally misunderstand Netflix. The real problem we're trying to solve is, *How do you transform selection so that consumers can find a steady stream of programs they love*? We give everyone a platform to broaden their tastes." [44]

From the beginning, Netflix has focused on having a deep understanding of their customers' movie preferences by analyzing data on what they have watched in the past and what other similar people also like. But rather than rely on demographics, Netflix invented a way to group customers by preference (Buyer Personas) that it calls "Taste Clusters."

Based on their deep understanding of Taste Clusters, Netflix expanded from being just a movie streaming service to also being a content creator. They started making content that they knew their 125 million subscribers would actually want to watch. Netflix productions have received six Academy Awards, and 112 Emmy nominations—the most of any network or streaming service, and even toppling HBO, the nomination leader for the last 17 years. Armed with a winning formula for creating Customer-

43 http://richardblundell.net/2013/10/netflix/

44 https://hbr.org/2018/07/to-see-the-future-of-competition-look-at-netflix

Movie Fit, Netflix is expanding its content, and is estimated to have spent a staggering $12 billion in 2019 creating its own new programming.[45]

Netflix not only modeled what people preferred to watch but also *how* they preferred to watch it. Based on their customer research, they eliminated pilot episodes and were the first to allow their customers to "binge-watch" episodes back-to-back-to-back (sometimes for hours on end), rather than wait a week for the next installment.

One traditional view of business strategy is that companies should focus on their "core competence," the business skill for which they are best suited (*e.g.*, production, distribution, marketing, sales, financing, etc.). Netflix created a new type of core competence, *Customer-Movie Fit*, and applied it to all its business functions (creation, distribution, marketing, etc.).

Hastings' new business model seems to be working. With $4.5 billion in earnings in 2019, the company, which is just over 20 years old, currently has a stock market value of nearly $146 billion.

The Two Types of Market Innovation Plays

In the preceding chapters we have shown how you can increase market share by changing your product to improve its fitness for the market's preferences. After all, it is usually easier to change the product than to change the market; but there are exceptions. Sometimes you *can* change the market's preferences to better fit your existing product's features.

There are two Market Plays that can be used to change the market side of the PMF equation:

1. Change Attitudes
2. Change Segments

Make people like your product more, or find new buyers who are already predisposed to like your product more.

45 Ibid.

Market Play 1: Change Attitudes

- ***Change a customer segment's attitudes to improve its fit with your product.***

Companies can change the Customer Value Model of a target market segment to increase preference for a product, without having to change the product at all.

NIKE AIR JORDAN

CRISCO

Nike

Nike built its reputation on building excellent running shoes. But as the running craze of the 1970s faded away in the '80s, Nike realized it needed to find a new path.

By 1984 Nike could have also made an excellent basketball shoe, but no one would have wanted it. Nike was only known as a *running* shoe company and was totally unknown in basketball. Why would anyone switch from Converse, the venerable market leader for many years, to an unknown *running* shoe company with no experience in basketball?

Nike needed a reason for people to love their product, and they found it in a rising young basketball star named Michael Jordan. According to Jack McCallum's book *Dream Team* [46], Jordan initially refused to even talk to Nike since, like Magic Johnson and Larry Bird, the two leading names in basketball, he wore Converse shoes. He had never worn Nike shoes and knew nothing about them. He only went to the meeting with Nike because his mother made him do it (now we finally know who is the mother of invention!).

46 http://deadspin.com/5924825/how-michael-jordan-and-nike-teamed-up-to-conquer-the-world

Once Nike signed Jordan to a generous promotional contract, they were then able to create two powerful changes to the Customer Value Model of young basketball players through their association with Jordan and the introduction of the now classic "Air Jordan" shoe.

First, they added a new and completely unique Value Dimension to their product—Nike became "*The shoe that Michael wears.*" As Jordan became a legend in basketball, more and more players wanted to "Be Like Mike." (The slogan was also used a highly successful Gatorade commercial that began airing in 1992.) Then, through spectacular advertising[47], they made *"The shoe that Michael wears"* a more and more important Value Dimension to their target market.

Here's the simple three-step strategy that Nike used to enter a highly competitive market without any brand recognition, introduced an unknown product with very low QPMF, and emerged as the clear market leader:

1. Introduce a new Value Dimension into the market: "*The Shoe that Michael Wears."*
2. Ensure that no competitors could attain any performance in that important dimension.
3. Make that dimension extremely important to their target market through great advertising.

Through the combination of amazing basketball performance by Jordan and impeccable advertising performance by Nike, together they were able to achieve substantial competitive advantage (Delta-Value) that captured significant market share from the former market leaders including Converse. And they did it very, very well. So well that more than 10 years after his basketball career ended, Michael Jordan still earns over $60 million per year in royalties from Nike.[48]

47 http://www.complex.com/sneakers/2012/03/the-25-best-air-jordan-commercials-of-all-time/

48 http://www.forbes.com/sites/kurtbadenhausen/2013/02/14/how-michael-jordan-still-earns-80-million-a-year/

Crisco

The story of "Crisco" (a name derived from "Crystallized Cotton Seed Oil") is another amazing example of taking an unknown product from zero to very high Product-Market Fit and market leadership by changing market attitudes, rather than changing the product itself.

In 1905 William Procter and his brother-in-law, James Gamble, were being disrupted out of their candle business by Edison's invention of the electric light bulb. Their future looked dark.

As their candle business had grown, they had made considerable investments in infrastructure. Specifically, they now owned eight cottonseed mills that produced the oil used in making candles and soap. As electric lights grew in popularity, the demand for candles was fading. The brothers-in-law needed a new product that they could make out of their excess cotton seed oil.

They discovered that combining liquid cottonseed oil with hydrogen created a white solid material resembling cooking lard (animal fat). There was a huge market opportunity if they could just find a way to get millions of women to switch from using familiar and good tasting lard to using their new product "Crisco." The challenges were significant to say the least.

Lard was a well-known, and well loved, kitchen staple used in all types of cooking from baking to frying. Crisco was an unknown, revolutionary, and synthetic product that most people didn't think taste nearly as good as lard.

The initial situation looked like this:

Brand and *Taste* were the two dominant Value Dimensions. Crisco was a new and unknown product and thus had zero performance in the *Brand* dimension and significant underperformance in the *Taste* dimension.

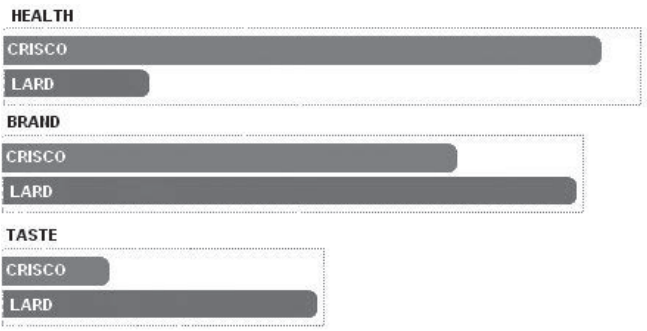
Undeterred by such challenges, Procter and Gamble conceived and executed a nearly flawless Market Play strategy. Since Crisco couldn't compete on the key dimensions of *Brand* or *Taste*, Procter & Gamble introduced a totally *new* dimension into the customer value model: *Health.*

Procter & Gamble launched a vigorous market campaign to smear lard. They sponsored medical studies that suggested that eating a diet high in saturated fat (like lard) could lead to obesity, heart disease and other health problems. Then they launched a clever ad campaign that claimed that "Vegetable Shortening"[49] was *healthier* than lard, and was the better alternative, especially for women *concerned about their family's health* (who isn't?).

They also focused on improving their performance in the all-important *Brand* awareness dimension as well. They created attractive white packaging to reflect the product's color and "purity" and claimed that "*the stomach welcomes Crisco.*" They created cookbooks and sponsored cooking programs to raise awareness and show women how to cook with Crisco.

Their strategy succeeded in changing consumer attitudes about lard, and thus their Customer Value Model. Customers were willing to increase the importance of *Health* over the importance of *Taste* (we all know that things that are better for you don't usually taste as good).

The new customer value model looked like this:



49 Technically, Crisco was derived from cottonseed which is not a vegetable.

Like Nike, here is the simple three step strategy that Crisco used to enter a highly competitive market without any brand recognition, introduced an unknown product with very low QPMF, and emerged as the clear market leader:

1. Introduce a new important Value Dimension into the market: "*Health.*"
2. Ensure that lard could not attain any performance in the *Health* dimension by publishing paid for studies that "proved" that Crisco was healthier than lard.
3. Increase the importance of *Health* to their target market through great advertising.

Even though Crisco didn't taste as good as lard, it literally "changed the game" and created enormous Delta-Value, which led to a market leadership position that lasted for decades.

The ironic epilogue of this story is that it turns out *that lard may be better for you after all*. The hydrogenated oils in Crisco (the trans-fatty acids) are now widely believed to cause even more severe health problems including heart disease, cancer, growth problems, learning disorders and infertility. Procter & Gamble may not have known about the health risks at the time, but they have since reformulated Crisco so that it no longer contains trans-fats.

While the old adage "*there is no accounting for taste*" may be true, that doesn't mean that tastes can't be influenced and modified with the proper innovation strategy. Sometimes, when you can't change your product to fit the market, you can change the market to fit your product.

The National Public Radio "Planet Money" program did a great job of telling the Crisco story. It's only five minutes long and worth a listen—see below for the link.[50]

50 http://www.npr.org/blogs/money/2012/02/03/146356117/who-killed-lard

Market Play 2: Change Segments

- ***Target a different customer segment that has a greater preference for your product.***

If you can't make a product that your customers like better by using Technology, Design, or Business Model Innovation, and you can't make your customers like your existing product better by Changing Attitudes, then what can you do? Find a better market to sell to!

"Switching Segments" is the last Market Play in the Innovator's playbook. The good news for Segment Switchers is that geographical, language and distribution barriers are falling fast. If there's a market segment out there that prefers your product, there's a good chance you can find them and sell to them.

Nimblefish

Here's another example from one of the author's personal experience. In 2005 Matt became the Executive Vice President of Technology & Operations at Nimblefish, a San Francisco startup and a pioneer in cross-channel marketing automation. The product let marketers build highly effective campaigns that integrated email, personalized websites, and digitally printed direct mail, all with content specifically targeted to the individual customer. Some may remember the buzz-phrase "One-to-One (1:1) marketing" which was popular at that time. That's what Nimblefish was really good at—managing big campaigns with lots of online and offline components with millions of variations in messaging.

The Nimblefish system created impressive results for its customers. It helped Apple launch the Power Macintosh G5 and generated an incredible eleven times the return of their typical direct marketing campaign. The campaigns cost more to run, about two to three times more than a traditional direct mail / email campaign at that time, but the higher ROI made it worth the higher expense. Invest three times more, get back eleven times more.

One would think that Apple would use Nimblefish for all subsequent campaigns from that day forward, but there was a catch. Highly targeted direct marketing campaigns required a lot more work from the client

companies. In order to generate a million variations of the messaging, a lot more detailed information was needed about the preferences and pain points of the targeted micro-segments. This meant that clients like the Apple marketing team had to provide it, requiring them to do much more work than they were used to for a single campaign. Even though the results were huge, the Apple team was exhausted. Their reaction was, "That was fantastic! But let's not do it again, at least not now. We need a break!"

Nimblefish campaigns worked best for "considered purchase" products, where the buyer needs a lot of information before buying. Campaigns were sold to companies like Apple, HP, and Adobe who used the technology for new product launches. While the Product-Market Fit was very high in some dimensions, the weakness was the amount of work marketers had to put into creating the targeted messaging versus the relatively short duration of a typical product launch campaign.

What could Nimblefish do? The power of their campaigns was dependent on the precision targeting of the customers, so the marketers had to provide detailed information about their customer segments. Nimblefish could not eliminate the problem by changing its product.

What if they could find a customer who was more willing to do more work for better results? Could they find a new set of customers where the current product, with no changes, had higher QPMF?

Yes, the team at Nimblefish found them. The first of these new customers was Lowe's, the giant home improvement retailer, who used the system to help people who were remodeling their kitchens. The messaging and products used for kitchen remodeling don't change much from year to year, and people don't remodel their kitchens very often. That meant that once the messaging models were developed, they could be used for years and years with minimal updates. This made the return on the extra set-up work much higher.

Nimblefish also found many other customers with similar problems as diverse as Invisalign and Marriott Vacation Club. But what they all had

in common was that they were selling a considered purchase product. The product did not change very often, and customers did not buy frequently. You don't remodel your kitchen, or get cosmetic braces, or buy a timeshare vacation home very often—maybe only once in your life. So, it is fine for the company to use essentially the same messaging for years, especially if it is precisely targeted to each type of customer.

This discovery had a massive impact on Nimblefish. The average deal size increased from $75,000 to over $1,000,000. Each sale produced recurring revenue for years. The company grew by ten times (10x) and was acquired in 2010.

Sachet Marketing

It is not uncommon for companies to move or expand into new markets, but they often need to use one or more of the moves in the Innovator's Playbook to make it happen. Generally speaking, some kind of Technology, Design, or Business Model innovation is also required in order to succeed in a new segment.

The strategy known as "Sachet Marketing" is one example of effective Changing Segments that opened huge new markets for some consumer-packaged goods companies.

Two-thirds of the world's population (about 5 billion people) have incomes less than $1,500 per year. For these people being efficient in their shopping is essential. There are many people who simple can't afford to buy a typical three-month bottle of shampoo, for example.

Smaller quantity packaging called "sachets" created new, innovative micro-selling methods for the more affordable packages. This opened a new market of eager consumers who *could* afford one day's worth of product at a time.

The sachet strategy was pioneered in India in the 1980s and subsequently spread rapidly through developing countries including China, India, Philippines, Mexico and Brazil. Sachet packaging now creates billions of dollars in new sales from previously inaccessible markets.

This is an example of a simple business model change (put the product in smaller packages) that drove expansion into new market segments for which the original packaging (big bottles) was a poor fit, without changing the actual product.

Innovator's Playbook Summary

When you're creating your innovation strategy, whether you're playing offense creating a disruptive new product, or playing defense protecting an established business, you'll increase your odds of success by understanding each of the five moves in the Innovator's Playbook.

These five plays are all you need to change Product-Market Fit.

Product Plays

1. Technology Innovation
2. Design Innovation
3. Business Model Innovation

Market Plays

1. Change Attitudes
2. Change Segments

Chapter 7
The Money Transfer Wars

"Some markets are pretty satisfied, so they change slowly and are hard to disrupt. Others are so dissatisfied they are begging to be disrupted."
- Chris Sorensen

Now that you have been introduced to the basic concepts of Product-Market Fit, QPMF score, and Delta-Value, it's time to see how to put these ideas to work to develop highly profitable innovation strategies.

In the following actual case study, we will walk through the entire innovation process from identifying a market that is ready for disruption, to conducting market research and identifying customer segments and Customer Value Models to designing products with high Delta-Value.

Here is a QPMF analysis example that is based on an actual start-up we'll call the "Mo' Money Mobile" (MoM) [51] money transfer service that was started with the intent to disrupt the person-to-person money transfer business. The MoM service allowed users to send and receive money transfers with their cell phones making it cheaper, faster and more convenient to send money to friends and relatives, both domestically and internationally.

The money transfer or "remittance" market is very mature. Western Union, for example, was founded in 1851 and is now over 169 years old. Western Union was the undisputed market leader followed by MoneyGram. Both companies were considered premium brands and shared the majority of market share. There was also a "long tail" of numerous small regional and discount brands that each had a small slice of the market share.

Through in-depth market research MoM identified the set of Value Dimensions that explained the majority of purchase decisions for international remittances for the key target market segments. Further

51 The name and numbers have been changed to be more entertaining.

research revealed that only the top three Value Dimensions (*Price*, *Convenience, and Security)* were critical to the buying decision for the target segments.

The remittance market is very commoditized; the offerings of the major brands are nearly equivalent, so the primary competitive differentiator are small differences in price, and thus *Price* was ranked as the most important Value Dimension with an estimated importance weight of 50% of the purchasing decision.

Through focus group research, MoM discovered that *Convenience* for both the sender and recipient was also an important consideration. *Convenience* was estimated at 30% importance of the overall buying decision. All the focus group members had stories to tell about how often it was frustrating and *inconvenient* to use the market leaders.

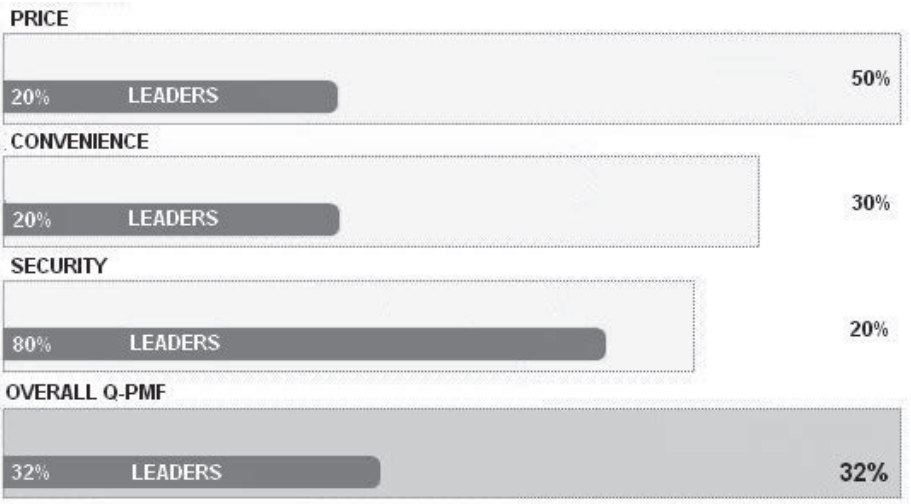
For example, one of the money senders explained that he would have preferred to use MoneyGram because it was more convenient and cheaper for him. But instead he would have to drive farther, and pay more, to use Western Union, when he sent money home to his wife, because it was more convenient for *her* to pick up the funds at her local Western Union office.

The third critical Value Dimension, *Security* was estimated at 20% of the buying decision. *Security* encompassed a number of issues, which could also have been called "*Peace of Mind,*" which included confidence that the funds would reach the recipient promptly and safely, and the assurance that the sender could get a prompt and hassle-free refund if there was a problem with the transfer.

In an industry with over 30 competitors, the two industry leaders were seen as charging high "premium" prices, but they were also considered more "secure," (*i.e.*, trustworthy). Some of the lower cost vendors were perceived to be untrustworthy "fly-by-night" operators. As one consumer explained it, he would rather pay $10 more to feel highly confident that his remittance would be refunded quickly and easily if the transfer ever got "lost," rather than save the $10, and be worried about losing his $300 remittance by using a cheaper, but less trustworthy service.

Customers equated higher prices with better service and safety, even though in reality there was no added advantage to the higher priced offerings.

Focus groups confirmed that the Customer Value Model below accurately represented that their critical Value Dimensions were *Price, Convenience* and *Security*. Then we asked customers how well the market leaders performed in each of these dimensions. Satisfaction in the top two critical dimensions of *Price* and *Convenience* was very low.



Customers knew that their money was no longer being carried by Pony Express riders through the dangerous wilderness. They correctly felt that in the age of global financial networks the average price of $10 was a *very* high price to pay. By comparison, it costs a business less than a dime to send a bank-to-bank transfer for any amount anywhere in the world.

With only a 32% satisfaction level for the leading brands and no confidence in the discount brands, consumers were sending a clear signal that they were ready and waiting for a new alternative. Consumers would be *eager* to change brands as long as the key dimensions of *Convenience* and *Security* were as good, or better, than the market leaders.

Consumers who used premium brands were highly satisfied (80%) with the level of *Security* and *Convenience* that the brand offered. In fact, their

strong desire for peace of mind was influential in the decision to use a premium brand. Users of discount brands felt much less satisfied (30%) with the level of *Security* but accepted that a lower price provider may be less "secure" than a premium brand. Buyers were reluctantly willing to trade away perceived security in exchange for the lower price. What customers really wanted was both a lower price and high security.

It is interesting to note that neither premium brands nor discount brands were actually any more or less secure; all transfer companies use similar interbank network technologies and are required by law to refund any undelivered transaction within 30 days. But that is not how the customers saw it, and the market leaders knew that they could leverage consumers' concerns about security to charge premium rates without actually providing a premium service.

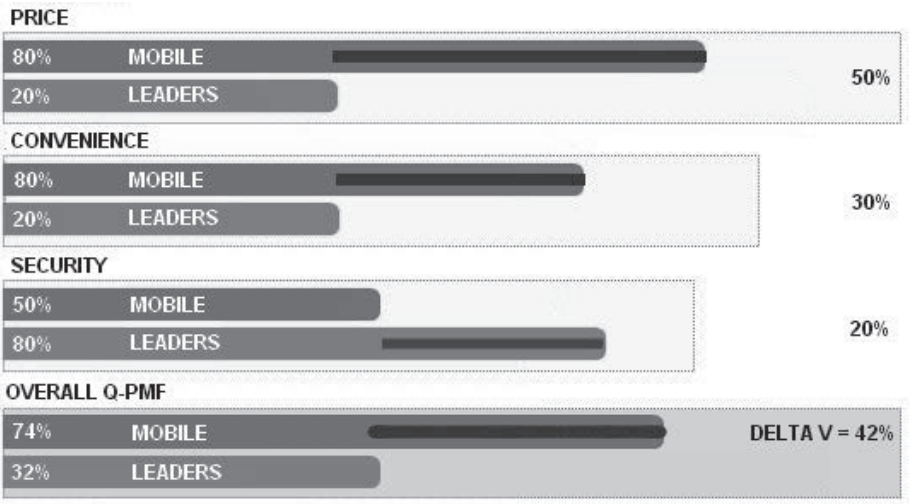
The overall QPMF scores for both premium and discount brands were very low, both around 30%, suggesting that the industry was ripe for disruption. MoM realized that the money transfer market was ready to embrace a new technology (mobile), which could create a new billion-dollar market leader, if the new service could offer superior performance in the key Value Dimensions at the same or better price.

Technology Innovation—Mobile Money Transfer

Based on extensive market research and the high level of dissatisfaction evidenced by the low QPMF scores, MoM designed a new product that radically improved the user satisfaction across all the key Value Dimensions.

The MoM mobile transfer system was designed to provide instant, guaranteed, low-cost person-to-person money transfers between any two mobile phones on the planet. Recipients could use ATM cards to withdraw cash from millions of convenient ATM machines worldwide.

Since the product was designed to perform well in the key Value Dimensions, many customers quickly understood the key benefits and were eager to start using the service and even suggested additional feature enhancements.



A Mobile Money transfer was priced slightly higher than the discount brands but still significantly below the premium brands. The service was perceived as attractively priced and along with the additional benefits the service provided (such as anytime, anywhere convenience), consumers felt that they were receiving much more value per dollar. Most people were much more satisfied with the Mobile Transfer price compared to the leading brands (80% vs. 30% satisfied).

If this market is mostly driven by price, why not enter the market as the low-cost leader, in order to rapidly capture maximum market share? There are several reasons to choose a slightly higher market entry price at the risk of potentially capturing lower market share.

The first reason is the "Price Ratchet" effect. It is much easier to reduce prices to gain market share, than it is to raise prices without losing market share. Given the highly competitive price pressure in the remittance industry, it was likely that the first market entry price would be the highest price the company would ever be able to offer. Over time, as more direct competitors entered the Mobile Money Transfer market that MoM was creating, the company expected to have to reduce prices to maintain a high Delta-Value and keep its competitive advantage. These forced price reductions would slowly erode margins, but the associated increase in market share would make the company more profitable over time.

The second reason not to lead with low prices is that as a new disruptive technology provider, MoM was initially focused only on the Early Adopter segment of the market.[52] Early Adopters are people who like to try new things, and are willing to pay more to be the first one on their block to buy the next cool thing. Early Adopters are typically a small segment at the leading edge of the market who are not as price sensitive as the later segments. For example, it was *only* the Early Adopters who were willing to pay the incredibly high price of $600 in 2007 for the first iPhone before it even had many of the features that are now considered essential (like third party applications).

MoM realized that different adopter segments had different Customer Value Models and price sensitivities. If MoM had started with a low market entry price it would have "left money on the table" that the Early Adopters were willing to pay. But it would not have significantly increased the overall Delta-Value or market share for larger market segments like the Early Majority who are typically more risk averse and price sensitive.

Price is often seen as a proxy for quality (in this case *trustworthiness).* MoM asked potential consumers how they would feel about the service at various price points and plotted a "parabolic" satisfaction curve with respect to price. High prices evoked low satisfaction responses; mid-market prices evoked much higher satisfaction because people felt they were getting a good deal. But surprisingly, deeply discounted prices evoked a strong *negative* response because consumers felt that if prices were *too* cheap; it indicated that the company was probably unreliable or an outright scam.

Even though MoM could have profitably provided the transfer service for $1, not a single person said they would trust or try a service that cost less than $5. In terms of the QPMF model, the effect of a deeply discounted price on the overall QPMF score was highly negative because it reduced the *Security* dimension performance score to zero. We discovered that *Security (Trustworthiness)* had a high minimum Table Stakes Threshold that acted like a circuit breaker in buyers' minds. If that dimension did not reach the minimum threshold, nothing else mattered.

52 See Geoffrey Moore's "*Crossing the Chasm*".

As a new market entrant, MoM had no brand equity. Customers did not know if the company would become a market leader or go out of business tomorrow, taking their hard-earned money with it. Until proven otherwise, both Early Majority and Late Majority segments would rank MoM as having zero credibility on the *Security* dimension. MoM had to prove that it was trustworthy before anyone other than the Early Adopter segment would even try it.

Fortunately, MoM was able to partner with a regional telecom operator that provided a "Halo Effect" and an imprimatur of credibility and trust. As with many Technology Innovations that create new categories, numerous "copycat" competitors quickly entered the market with similar service offerings. Currently more than 40 million people worldwide are using a Mobile Money Transfer service, like the one that MoM pioneered, to transfer over $5 billion per year and growing rapidly.

QPMF Analysis

MoM was one of the first practical "live fire" applications of the QPMF framework. It was a unique opportunity to experiment with some of the tools in the Innovator's Toolkit, and some of the plays in the Innovator's Playbook.

The key insight that the QPMF framework revealed immediately was the unusually low level of customer satisfaction across all customer types. There was a lot of unfilled white space in the Value Dimension envelopes indicating that there was an immediate opportunity to gain significant Delta-Value within the existing key Value Dimensions.

MoM did not need to create a strategy to disrupt the market leaders; they had already done it to themselves. Their customers were ready, willing and waiting for a new service that could offer them just a little bit better service than their current provider. *It does not take much Delta-Value to persuade highly dissatisfied customers to abandon products with low QPMF scores.*

All MoM needed to do was to use the first tool in the Toolkit: increase its performance in the key *Price* (50%) dimension while staying above the minimum threshold in *Security,* something that many other discount brands had failed to do.

The Technology Innovation of conducting money transfers using a mobile phone provided the added benefit of anytime, anywhere *Convenience*, which we were certain would quickly become the dominant Value Dimension for most users. But one can be certain and still wrong. Instead it turned out that the most important feature was that the increased *Speed* of the mobile service dramatically improved the sense of *Security* (peace of mind) for users. The sender could immediately call or text the recipient and ask, "*Did you get the money I just sent?*" The answer was always, *"Yes!"*

Chapter 8
More About Value Dimensions

"Just when you think you have it all figured out—think again."
- Chris Sorensen

The QPMF model is good for assessing the "state-of-play" of a product's current market positioning and identifying possible strategic moves. It is also useful for assessing new product design trade-offs by evaluating what-if scenarios.

If the secret to high Product-Market Fit is high performance in the Value Dimensions of the Customer Value Model – why not just design a product that maximizes performance across *all* Value Dimensions? Unfortunately, the laws of physics or finance typically prevent that. Product designers usually face technical or budget constraints, which means that they have to be very selective about which Value Dimension they invest their resources in.

In general, the most effective product design strategy is to invest in maximizing performance, as much as possible, in the most important Value Dimensions first, often at the expense of having lower performance in the lesser important dimensions. But in order to optimize the impact of the investment of technical and financial resources, there are three more subtleties of Value Dimensions that it is important to understand.

Value dimensions have three important characteristics that an innovator must consider when designing a product for high PMF:

1. Table Stakes Requirements
2. Diminishing Marginal Utility
3. Over Fit Liability

1. Table Stakes Requirements

The term "Table Stakes" refers to a minimum amount of performance a product *must* have for the product to be viable in the market. The term "Table Stakes" originally comes from poker, although the actual meaning in poker and the way it is used in product innovation are not the same. "Buy-in" or "ante" might have been better terms but the name Table Stakes stuck.

Here's a simple example of a Table Stakes requirements: When most people buy a car, they have certain fundamental expectations, such as it has a steering wheel, four tires, the engine works, the battery is charged, the brakes work, and in general it is safe to drive. If any of these Table Stake features are absent, most people would never even consider buying the car, regardless of how many other nice features it might have like a candy-apple red paint job.

In fact, even if the performance in *all* the other dimensions was perfect (e.g. great *Style, Comfort* and *Safety*) but it was missing *any* of the basic Table Stakes requirements, like the engine, the product would capture 0% market share.

Note that Table Stakes requirements are driven by, and often unique to, each target market segment. In this car example, no *consumer* would buy a car without an engine; but there are other market segments such as "Tuners" (racing enthusiasts, formerly known as "hot-rodders") who will replace the stock engine with a high performance racing engine anyway. For the consumer market, "bundling" the engine with the car is a Table Stakes requirement. For the Tuner segment the stock engine is just an added expense, a liability that they would prefer that they could un-bundle, in order to reduce the purchase price.

Not all Value Dimensions have a minimum Table Stakes performance threshold that must be met for the product to be viable for a specific target segment – but all *critical* Value Dimensions do. If performance falls below the minimum threshold, it acts like multiplying the QPMF score by zero—nullifying the entire value proposition.

By convention, QPMF charts are drawn so that the left axis represents the minimum performance threshold or *zero customer satisfaction* (not

necessarily zero performance). Any performance below the threshold doesn't count. The minimum performance threshold is similar to the concept of Minimum Viable Product (MVP)[53] used in the Lean Startup framework.

A Minimum Viable Product is often the first version of a product that only has the bare minimum features required to satisfy early customers enough to buy the product. It is used to discover the minimum requirements thresholds of the early adopters, and to solicit feedback for future product development.

Not all Value Dimensions are critical to the buyer—some dimensions may be optional. Optional Value Dimensions do not have a minimum Table Stakes threshold. For example, there may not be a minimum threshold for *Prestige* for tractors or motor oil.

Knowing which Value Dimensions have minimum Table Stakes thresholds and which don't, is critically important to designing an optimal innovation strategy. For example, the first iPhones that were introduced in 2007 still had a few glitches that needed to be worked out. The phones only worked on the AT&T network, which still had many gaps in its service area. Users in downtown San Francisco had to walk outside in order to find a strong enough signal to make a phone call with their new iPhone.

The first version of Apple's iOS operating system (used on iPhones) was also missing several critical features, including the ability to cut-and-paste—which Apple had ironically pioneered in their first computer models. When Apple finally did add cut-and-paste functionality to later models, Tech Blog Gizmodo chastised them for taking so long saying: "*After about 10,000,000 requests, Apple has finally given in and delivered the super-basic feature that the iPhone has been missing since day one: cut and paste. Took you jerks long enough.*"[54]

Most people would assume that basic functionality like cut-and-paste would be a Table Stakes issue (who would knowingly buy a smartphone

53 https://en.wikipedia.org/wiki/Minimum_viable_product

54 http://gizmodo.com/5171998/thank-the-sweet-lord-above-the-iphone-finally-gets-cut-and-paste

without it?). But did its absence stop people from overpaying for a new iPhone? No, it did not.

Perhaps part of Apple's marketing genius was realizing that these minor weaknesses were *not* Table Stakes features. Even though people were not happy that the network coverage was spotty and that their mobile email device lacked a cut-and-paste feature, they were willing to tolerate it in exchange for the iPhone's other significant benefits such as *Prestige*.

2. Diminishing Marginal Utility

The concept of "*Diminishing Marginal Utility*" comes from the "dismal science" of economics, but it also has a direct bearing on innovative product design. Here is the classic explanation of the Diminishing Marginal Utility concept that economics professors have used for years to illustrate the relationship between diminishing *benefit* (utility) and *price.*

Imagine that you were stranded in the desert, and after walking many miles you come to a refreshment stand. You are parched and eagerly approach the stand to buy a much-needed drink of water, only to discover, to your dismay, that the stand is operated by an economics professor. Rather than charging everyone the same price, the professor negotiates a unique "market" price for each customer based on their need and willingness to pay.[55]

The professor bargains with you and eventually you begrudgingly settle on a price of $10 for a glass of water. "Would you like another?" asks the Professor. This time you negotiate a better price of only $5 because you are not quite as thirsty as you were before (and you are a quick learner).

Likewise, you settle on a price of $1 for the third glass. The price you were willing to pay for each subsequent (or "marginal") glass of water declined rapidly because each additional glass provided less benefit (utility) to you. After the third glass you are full and you can't drink any more water, so the value of all additional glasses of water to you is now zero.

55 This is the same concept behind Uber's "surge pricing" (dynamic pricing model).

The same is true of Value Dimensions in the QPMF framework. The benefit that customers receive from adding additional units of performance in a specific Value Dimension often exhibit Diminishing Marginal Utility and will eventually reach a saturation point where more performance doesn't provide any more value. Any additional performance beyond 100% satisfaction is called "Over-Fit" and receives no additional performance points in the QPMF framework, and often turns into a liability. Sometimes there can be too much of a good thing.

3. Over-Fit Liability

The other end of the spectrum from Table-Stakes is Over-Fit. The right-most point in any Value Dimension in a QPMF diagram represents 100% customer satisfaction. That is, after that point any further product improvements in that dimension will not have any positive impact on customer purchase behavior. This makes intuitive sense because a consumer cannot be 110% satisfied. Any performance beyond 100% satisfaction is called "Over-Fit."

If you add too much over-performance in a dimension, then Over-Fit it can become a *liability.* Going back to the example of buying a glass of water in the desert from the economics professor, imagine that the professor asked you if you would prefer warm or cool water? You tell him that you prefer cool water. In other words, one of your non-critical Value Dimensions is *Temperature,* and, *within limits,* the cooler the water, the better.

He pours room temperature water and asks you if you would like some ice? Yes, the cooler the better. Really? Then he asks you if you would like for him to put the whole glass of water into the freezer and turn *all* the water into ice? No - you have reached your upper limit of *Temperature* satisfaction; turning all the water into ice makes it hard to drink, which turns a benefit (*Temperature*) into a liability (*Difficulty*).

A small amount of Over-Fit is not usually very detrimental, but it can be a wasted allocation of resources that might have been used to make more meaningful contributions in other underperforming Value Dimensions. But there was one famous case where Over Fit became known as one of the greatest marketing blunders of all time.

The Cola Wars

Suppose that you were a confectioner and knew that *Sweetness* is the top Value Dimension for candy. In most cases "*sweeter is better*," so you make your candies as sweet as possible in order to achieve market leadership.

Unfortunately, having never met an economics professor in the desert, you are unfamiliar with the concept of Diminishing Marginal Utility to sweetness. You don't realize that after a certain point candy can become *too* sweet, especially for adults (an adult's appreciation for sweetness decreases as they age). Making a confection as insanely sweet as possible might make it the market leader with kids, but it wouldn't do well with adults.

Most people intuitively know this about sweets, so the following example seems to have an obvious and predictable outcome, which is why it is so surprising that this is exactly what happened to one of the world's largest and most sophisticated confectioners. It happened during the so-called "Cola Wars" between longtime market leader Coca-Cola and longtime challenger Pepsi as they wrestled for market dominance in the 1980s.

Pepsi launched a highly effective commercial campaign called the "Pepsi Challenge" where they "proved" that people seemed to prefer the taste of Pepsi to Coke in a blind taste test. The game was on.

Coke and Pepsi are nearly identical cola drinks and many people cannot tell them apart in a blind taste test. But in fact, Pepsi is a little bit sweeter, which appeals more to younger drinkers. Both Coke and Pepsi contain a lot of sugar; Coke has about seven teaspoons of sugar per can and Pepsi has around ten teaspoons.

The success of the Pepsi Challenge was taking its toll on Coke, which was losing significant market share to Pepsi. It appeared obvious to Coke executives that Coke was taking a beating because it couldn't compete head-to-head with Pepsi in the *Sweetness* dimension. Coke needed a new strategy.

One obvious strategy would have been to create a new, slightly sweeter Coke product that they could market to younger drinkers who preferred sweeter drinks; perhaps named something like "Coke-Plus" (as in "plus a lot more sugar").

But for some inexplicable reason they decided instead to *change* the 100-year-old secret formula for the best-loved soda in world, to make it as sweet as Pepsi. To add insult to injury, they renamed their venerable "Coke" (long recognized as the most valuable brand in the world[56]) to "New Coke" on April 23, 1985. They also *ended* production of the original formula the same week. Apparently, the Coke executives were unfamiliar with the concepts of hedging their bets.

New Coke came in a new can with a new logo and label using red and *silver* graphics to replace the iconic red and white Coke brand colors. Everything about good old familiar Coke was now new and different. Customers hated it.

New Coke was not only a dismal failure, it is widely considered to be one of the worst marketing blunders in American business history. The key insight that Coke executives failed to grasp was that if the vast majority of loyal Coke drinkers had wanted a sweeter drink they would have just switched to Pepsi—but they didn't!

Coke drinkers all over the world were outraged, and quickly hoarded all the remaining original Coke on store shelves because the production of "real" Coke had ended. Customers protested the change so much that only 77 days later, on July 11, 1985, the company finally bowed to public pressure and brought back "old Coke" which they now had to rename "Classic Coke." When New Coke was phased out, the name "Classic Coke" was dropped making Coke once again just plain "Coke."

After one hundred years of market leadership, how could such a well-managed and market-driven company like Coca-Cola make such an astounding mistake? The company's public explanation was equally short sighted. They claimed that even though they had conducted extensive taste tests that showed that a majority of consumers *preferred* the taste of New Coke to old Coke, the company claimed that it failed to appreciate the "*emotional appeal*" of the original Coke, and, by implication, failed to

56 https://brandfinance.com/news/press-releases/always-coca-cola-worlds-favourite-soda-tops-brand-ranking/

predict how resistant to change the public would be. In other words, it was the *customer's fault* for not going along with the executives' blunder.

Coke's President and Chief Operating Officer, Donald Keough said:

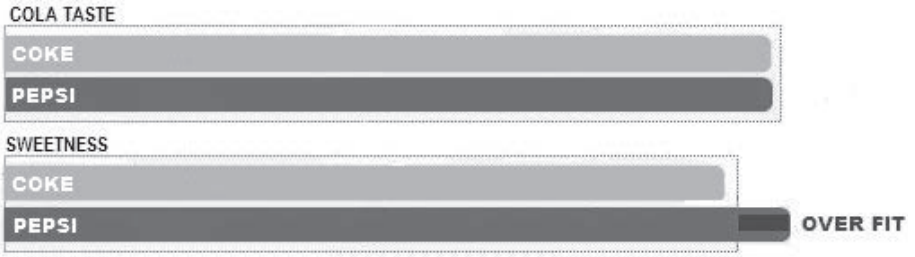
> *There is a twist to this story which will please every humanist and will probably keep Harvard professors puzzled for years. The simple fact is that all the time and money and skill poured into consumer research on the new Coca-Cola could not measure or reveal the deep and abiding emotional attachment to original Coca-Cola felt by so many people.*
>
> *The passion for original Coca-Cola—and that is the word for it, 'passion'—was something that caught us by surprise. It is a wonderful American mystery, a lovely American enigma, and you cannot measure it any more than you can measure love, pride, or patriotism.*

This also ranks as one of the worst non-apologies in American business. Most people were taught as children that when you make a mistake, the admission, apology and pledge formula usually works best. Rather than blaming their customers and admitting that they really didn't understand them, a simple statement such as: "*We made a mistake. We're sorry. We'll fix it and it won't happen again*" would have been better.

People probably do have a deep emotional attachment to familiar brands like Coke, but there is a much better explanation for the "mystery" of Coke executives' phenomenal miscalculation than Coke has an ineffable quality akin to love, pride, or patriotism, which executives couldn't measure. The Coke executives neglected the first step in the QPMF process: understand the Customer Value Models of your Buyer Personas. Coke executives assumed that everyone in the world fit into a *single* Buyer Persona, and that everyone had the exact same Customer Value Model. They ignored what they already knew, that there were at least two Buyer Personas: *Coke Drinkers* and *Pepsi Drinkers*, and they had different Customer Value Models.

A quick QPMF analysis from the Coke Drinkers' perspective can help us understand the situation. The two most important Value Dimensions for cola drinkers are *Taste* and *Sweetness*. Coke and Pepsi have a nearly

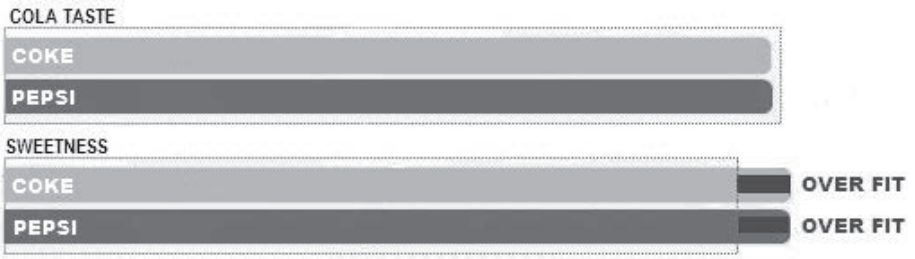
identical "Cola Taste" and both provide virtually 100% satisfaction in the *Taste* Dimension. The point of differentiation is the *Sweetness* dimension.



For Coke drinkers, Coke provided nearly 100% satisfactions in both Value Dimensions, making it an extremely rare product that had nearly *perfect* Product-Market Fit. In contrast, Pepsi was *too* sweet for Coke drinkers giving Pepsi a significant Over-Fit liability for people who prefer Coke.

Coke was losing market share to Pepsi not because the preferences of Coke drinkers had changed, but because there was a demographic shift that skewed younger and thus favored Pepsi drinkers due to their sweeter palette. New Coke was designed to compete head-to-head with Pepsi on *Sweetness,* with the intent of stopping defections of Coke drinkers to Pepsi by removing the reason to switch brands.

By making New Coke as sweet as Pepsi, they removed any product differentiation, and incurred the same Over-Fit liability as Pepsi. Rather than prevent defections of a few consumers with a sweeter palette, they *alienated the majority of their existing consumer base*.



Coke claims that the decision to launch New Coke and discontinue old Coke was based on one of the most extensive and expensive market research

campaigns and taste tests in history. But they still got it wrong, how could that be?

The key to this mystery is in a significant difference between how the taste tests were conducted during market research for New Coke (and during the Pepsi Challenge) and how people *actually* consumed the products. Pepsi only beat original Coke in taste tests when sipped in *small servings*. But drinking a *full can* of the sweeter Pepsi was more than most Coke drinkers could stomach. It was later revealed that even Pepsi's own taste test research gave a decisive (but unpublished) advantage to original Coke.[57] They just didn't promote those results in their commercials.

The moral of this story is *just because a little is good, doesn't mean more is better*.

57 http://bigpicture.typepad.com/comments/2005/04/new_coke_vs_tim.html

Chapter 9
Lock-out is out. Lock-in is in.

> First to market seldom matters. Rather, first to Product-Market Fit is almost always the long-term winner. Once a company has achieved product market fit, it is extremely difficult to dislodge it, even with a better or less expensive product.
>
> - Andy Rachleff

Lock-out is out.

Many years ago, the concept of competitor "Lock-out" was an important business strategy. The strategy included a wide range of tactics intended to deny competitors access to critical resources they would need to build or sell competitive products to protected market segments. Lock-out strategies included controlling access to key raw materials or key distribution channels. For example, during the "Golden Age" of Hollywood, movie studios were "vertically integrated" and also owned theaters. Since studios would only allow their own movies to be shown in their theatres, the financial success of a movie was less driven by its artistic quality and more by the number of theaters the studio owned.

During the "Gilded Age" leading up to the twentieth century, vertical integration was a powerful Lock-Out strategy that gave rise to huge conglomerates called "Trusts." Producers would buy their up-stream suppliers and their down-stream distribution channels, which would both reduce internal costs as well as prevent suppliers and distributors from working with competitors. The strategy was so successful that it created many huge Trusts that tightly controlled how business was done, and who profited from it. By the 1890s, only a few huge companies dominated every major industry including railroads, oil, banking, timber, sugar, liquor, meatpacking, steel, mining, tobacco and textile industries, leaving little room for competition.

An example of a modern Lock-Out strategy is the 1998 antitrust suit brought by the Department of Justice (DOJ) against Microsoft

Corporation. The DOJ found that Microsoft acted as a monopoly and used its power over computer distributors to unfairly lock-out any software that competed against the Microsoft operating system or web browser. This denied numerous companies including Apple, Java (Sun Microsystems), Netscape, Lotus Development Corp., RealNetworks, and others access to key distribution channels.

Today, antitrust and restraint of trade laws prevent most lock-out strategies, and in the age of Hyper-Innovation they are much more difficult to execute. There are too many direct and indirect competitors offering a huge range of product variants in every industry. Internet startups can often bypass traditional distribution channels entirely and sell directly to consumers. This means:

Lock-Out is out.

Lock-In is In.

The term Lock-In has traditionally been used to describe business practices that made it too difficult or expensive for customers to change brands once they have made a purchase. Companies would literally think of ways to keep their customers "prisoner" in order to extract the maximum value from them over time. Mobile telecom carriers used to require two-year contracts with expensive early cancellation fees to prevent customers from defecting to competitors due to poor customer service. The concept of trying to keep customers locked-in by "force" rather than by choice is not only a bad idea, but it also creates a significant opportunity for competitors to make their products more attractive with better customer service.

The term "Lock-In" now has a new meaning in the QPMF framework. Rather than trying to keep customers captive by contracts or sanctions, "Lock-In" now refers to a customer's voluntary and rational loyalty because there are no other competitive choices that offer better Product-Market Fit or better overall customer satisfaction.

Products with high Product-Market Fit don't have customers *per se*, they have "fans" that "love" their products and are proud to display their logo and promote the brand to their friends. For example, can you think of any

brands that customers love so much that they willingly have the band's logo *tattooed* on their body? How about Harley-Davidson motorcycles?

Harley-Davidson is not just a brand; it is a lifestyle and worldview. Buying a Harley grants one access to a very specific tribe and proclaims to the world your membership. Like luxury handbags, the psychological benefits of buying a Harley far outweigh the other practical benefits, or liabilities.

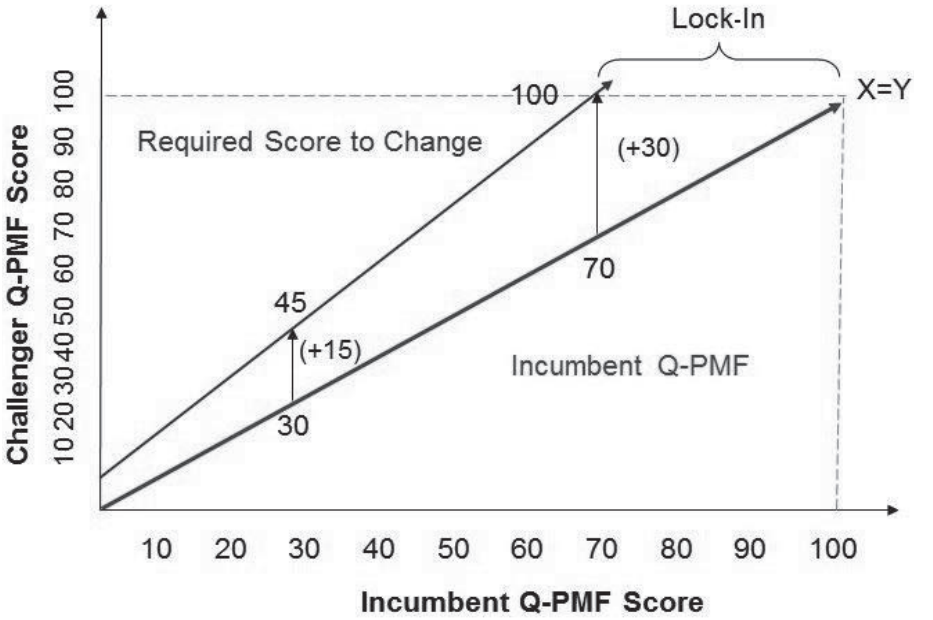
In the Product-Market Fit framework we expect that most products have some level of brand loyalty and built-in resistance to changing to a new product. In order to get customers to switch, the new product must have a sufficient Delta-Value advantage to overcome the habit of buying the old product. This is called the Switching Threshold.

The Switching Threshold represents more than just people's psychological resistance to change. There are often actual costs, risks and learning hurdles associated with switching to a new product. Consider the case of a customer switching from a domestic car to a sportier import. The import offers many attractive upgrades and improvements, but also comes with some "pain of change" burdens. The customer may have had a long and valued relationship with the service manager at the old dealership who always went the "extra mile" to keep the customer happy and the repair costs low. But now the customer has no relationship with the new dealer who may not have the same attention to customer care or respect for the customer's repair budget. While the new car itself is a step up, the service and higher repair costs are a step down, so the benefits of the new car must be greater than the pain of change.

In order to entice a customer to switch brands, the new product must have enough Delta-Value to compensate the customer for the pain of change. For example, if the incumbent product has a QPMF score of 50%, customers are unlikely to switch to a new challenger product that only has a QPMF score of 51% (a Delta-Value of 1%). Even though the new product *is* better, it's not *better enough* to overcome the pain of change. If the Switching Threshold for the target segment is a Delta-Value of 10%, then the new product would need a QPMF score of at least 60% to entice customers to change brands.

The size of the Switching Threshold is not a fixed number, it depends on the several factors including the preferences of the target market and how satisfied or dissatisfied are the buyers. In general, the size of the Switching Threshold *increases* the with higher QPMF scores. In other words, the more satisfied customers are, the *harder it is to get them to switch brands*, because their Switching Threshold is larger.

If the Switching Threshold is large enough, it can create customer Lock-In, even if the customer is not 100% satisfied. If the incumbent product has a very high QPMF score, *and* a high Switching Threshold, then a competing product can't offer enough Delta-Value to overcome the customer's Switching Threshold. For example, if a customer is 90% satisfied with a product, but he has a Switching Threshold of 15% the customer is "Locked-In" because he can't be more than 100% satisfied, so he can't reach enough Delta-Value to switch products. This is what makes Lock-In possible.



In this diagram, the upper line shows how much better a competitor would have to be to take customers away from an incumbent product whose QPMF score is represented by the lower line. If the incumbent product has a low QPMF score of only 30%, buyers are not very satisfied with the product and may even be actively looking for alternatives. A competitor

may only need a small 15% Delta-Value advantage (*i.e.*, a QPMF score of 45% or higher) to get customers to switch from the incumbent to the challenger.

But if the incumbent already has very satisfied customers with a high QPMF score of 70%, then the challenger would need a larger Delta-Value advantage of, say, 35% in order to get customers to switch. In this case it means that the challenger would have to offer a product with a QPMF score of 105%, which is not possible in the model.

This means that a product does not have to have perfect Market Fit (100%) to achieve customer Lock-In. If a product has a high QPMF score with a high switching threshold, it can effectively Lock-out the competition because it is not possible for a challenger to overcome the Switching Threshold.

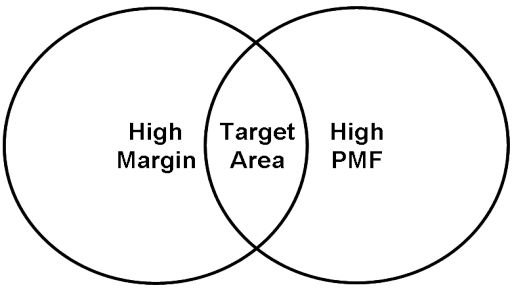
Consider how difficult it would be to get fans of Coke, Harley, and Apple to switch to another brand. Under what circumstances or product configuration would it be possible to get a Harley rider to switch to an import like Honda or BMW? It is almost inconceivable; it would be like trying to get a person to change their political party or religious faith. Even if you offered them a new import bike *for free,* no "self-respecting" Harley rider would ride it—especially not in public.

The only way a competitor can break the Lock-In is to change the game by disrupting the Value Model entirely using one or more of the five moves in the Innovator's Playbook. In a new, emerging or recently disrupted market, whoever can achieve Lock-In first has a huge advantage—until the next disruption comes along!

Chapter 10
The Secret to Profitable Innovation

"Coming up with new innovations is easy.
Coming up with profitable innovations is harder."
- Chris Sorensen

There are two basic approaches to creating highly profitable products: pursue high margin or high market-share. While a combination of both is most desirable, often companies try to increase market share by cutting price, which adversely affects margins. Or they reduce quality to cut costs and increase profitability in the hope that their market share doesn't erode due to lower PMF.



In general, as a product moves to the right in this diagram, it increases PMF at the expense of margin; the product is more attractive to the market, but less profitable. As it moves to the left, it increases margin at the expense of PMF, reducing market share, and thus may reduce overall profitability. The objective is to find the optimal balance between margin and PMF that maximizes profit.

In general, it costs more to produce a product with higher PMF that can gain more market share. On the other hand, products with very high PMF can often fetch a higher price, which can offset the higher costs and

even create a higher margin (e.g. iPhones). Remember the example of the designer handbag? Two essentially identical handbags, one sells at a department store for hundreds of dollars, the other carries a designer label and sells for thousands of dollars. Which bag is more "profitable?"

In this case "profitable" refers to total earnings, rather than per unit margin. The consumer handbag is likely to generate much higher total earnings than the designer bag, because even though it has a much lower margin per bag, it has enormous market share and sells more bags.

The designer bags are the exact opposite, very high margin per bag, but much smaller market share. Within the *consumer* Customer Value Model, the designer bags have very low PMF due to excessive price. Within the *luxury* market, the designer bags have very high PMF due to the brand and excessive price.

Increasing PMF along most Value Dimensions will usually increase production or service costs and (usually) market share. Often, the more important the Value Dimension, the more expensive it is to increase performance within it. For example, consider the case of a car designer trying to maximize a car's acceleration. A standard four-cylinder engine may cost $1,000 but an eight-cylinder engine (twice the power) may cost $2,500 (more than twice the cost). In order to get even more power out of the engine the designer may want to add a turbocharger (another $1,500), which requires the engine to be fitted with high pressure seals (another $2,000). The resulting high-performance engine has three times the power of a standard four-cylinder engine, but the cost rose by *six times*. Is it worth it? Can the price of the high-performance car design be increased by at least $6,000 or more without *losing* market share? Or will the higher performance design *increase* market share even with the higher price?

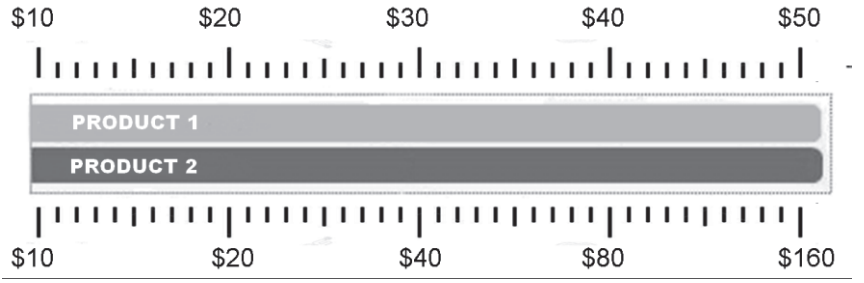
The key point is how much does it cost to increase market share and how much is that increase worth in increased revenue? The answer depends on how much it costs to increase performance in each Value Dimension and how much that dimension contributes to overall PMF. In addition, how much additional market share can be captured and what it is worth.

In other words, with every change in performance in a Value Dimension you are "buying" either an increase or decrease in market share and margin. Generally, one wants to invest resources to increase performance in the most cost effective Value Dimensions, and minimize investments in high cost, but low importance Value Dimensions because it wastes budget that could be put to better use elsewhere.

In order to design products that have high PMF and are also highly *profitable,* you must understand how all the variables interact in often non-linear ways.

Cost Gradients

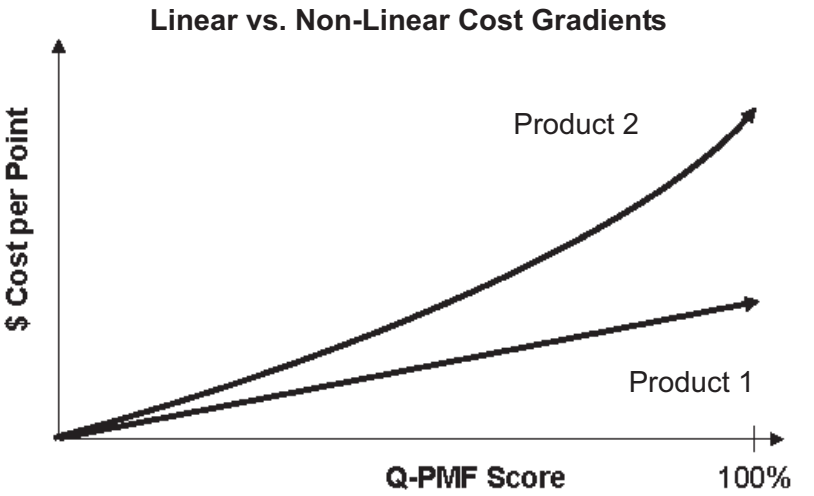
Each Value Dimension has its own "Cost Gradient" which is how much it costs to increase performance in that dimension.



At the low end of this Value Dimension both companies have similar cost structures. To produce 20% satisfaction would cost each company $20. To reach one hundred percent satisfaction would only cost $50 for Company 1, but it would cost Company 2 over *three times* as much at $160.

Cost Gradients are rarely linear as shown by Product 1; it costs the same to buy every unit of performance, regardless of where it is on the gradient, so it graphs as a straight line. Typically costs change in a non-linear way as shown by Product 2; as you buy more units of performance, they become increasingly costly, so it graphs as a curve.

Different companies have different cost gradients for each Value Dimension based on how the company is structured. Imagine the case of two competing factories; Company 1 is highly capitalized and has invested



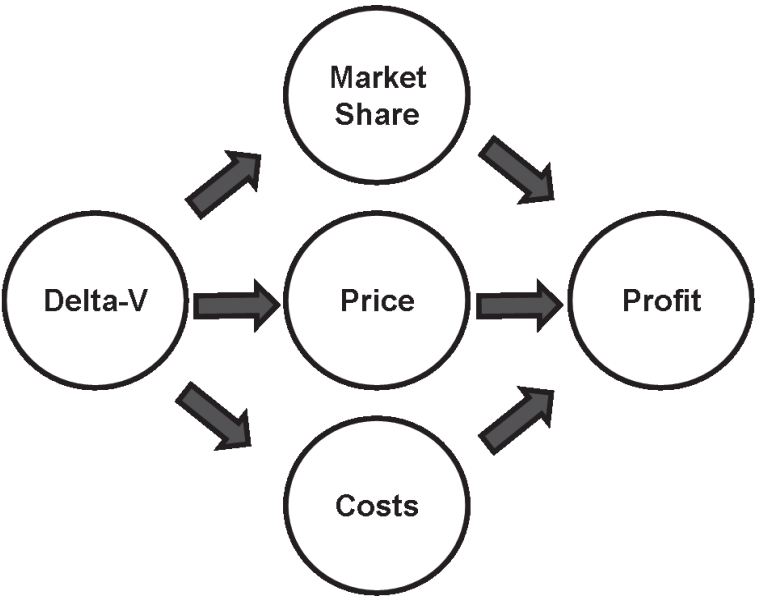
in a sophisticated automated production system. Company 2 is much less capitalized and relies mostly on manual labor to produce products. Being highly automated, Company 1 can change and improve its product features simply by entering a new CAD/CAM[58] file into the production system computer. Adding new product improvements does not require any additional overhead costs, just increases in materials and production time. The result is the (rare) linear Cost Gradient line for Product 1 above.

The situation for Company 2, however, is very different. Using manual labor means that every new product improvement requires significant changes to their production process, such as hiring new design engineers, potentially buying new specialty equipment, rearranging the production floor work flow, and hiring more workers to handle the increased number of steps for the new product. The result is the ever-increasing Cost Gradient curve shown for Product 2.

The question that the designer needs to answer is *"What is the optimal mix of performance vs. cost to create the most profitable product?"* This can only be determined once the designer understands the Cost Gradient for each Value Dimension and knows how many points of additional market share can be expected from each additional increase in Product-Market Fit.

58 Computer Aided Design / Computer Aided Manufacturing

In order to create highly profitable products, it must be possible to purchase significant PMF at a very low relative cost. Keep in mind that each Value Dimension also has a Diminishing Marginal Utility in terms of product attractiveness. For example, we would expect to see a larger market share increase from increasing a product's overall score from 50% to 55%, than from increasing its score from 90% to 95%. Often the increasing cost curve for performance is at odds with the diminishing effectiveness for every additional unit of performance "purchased." If costs are going up faster than the dollar value of the market share increase, it might be hard to create a profitable product.



The non-linear relationship between Delta-Value, Market Share and Profits can be complex.

For example, many companies know how much each percentage point of market share contributes to earnings; and they know how much it costs in terms of marketing spend to achieve it. Many managers see improving a product's market fit as too expensive (and thus less capital efficient) than improving the effectiveness of their *marketing* campaigns. Often their primary objective becomes finding lower cost ways to *promote* their product rather than finding optimal ways to *improve* the product.

While increasing PMF usually increases production costs, in some cases it can also *lower* the marketing costs because buyers are more likely to buy the product. *It is very expensive to market a product that no one wants, but very cheap to market a product that everyone wants.*

The key to profitable product design is to understand the positive and negative interplay between these two objectives. Most new products fail because they are unable to capture enough market share to be profitable at their effective margin. Companies must either find a way to reduce costs or to profitably increase market share.

One strategy is to focus on maximizing performance in the Value Dimensions that are most cost-effective for the company—which may or may not be the most critical dimensions in terms of PMF. The result can be a lower quality but much more profitable product overall. The counter-intuitive lesson is that sometimes building the "best" product is not the best business decision.

Night of the "B" Movies

An interesting example is the campy, awful, but often lovable "B" Movies (so called because they were the lower budget movies shown second at a double feature). For many years the common wisdom in Hollywood was that movies with big budgets, "A-List" stars, and well-known directors were the keys to making the most box-office revenue and thus profits. But even big budget movies only have a fifty-fifty chance of being profitable.

So why would anyone make a low budget "B" movie without well-known stars or a well-known director? Surely the "B" movies are destined to lose money, especially when competing for opening night market share against big budget blockbusters. While that is often true, it is not *always* true. The secret to making a profitable movie is still more alchemy than science. As the president of the Motion Picture Association, Jack Valenti, once said: "*No one, absolutely no one, can tell you what a film is going to do in the marketplace."*

Rising to address his challenge, several researchers conducted statistical studies to see if they could identify the key drivers (Value Dimensions) of

successful movies. The first thing they discovered was that the common wisdom was wrong. Their studies showed that neither *Star Power* nor *Director Power* had a consistent positive effect on box office revenue. Casting big-name stars in a film increased median production cost from $9.7 million to $22.8 million,[59] but did not meaningfully improve the film's chances of being a hit.

The researchers concluded that while using large budgets and big-name stars could sometimes create a blockbuster hit, it could also sometimes result in the biggest flops. Surprisingly, films with smaller budgets and no-name stars are more likely to be a financial success.

The data showed that while higher production budgets did have a positive impact on box office receipts, the higher costs also had an even stronger ***negative*** impact on profit.[60] While big-budget films over $50 million often had noticeably better "production values," they still only had a fifty-fifty chance of being profitable.[61] Mid-tier films with budgets between $25 million to $50 million were the most likely to be profitable (60%).

Viewing Hollywood through the lens of the QPMF framework, one could form two hypotheses to explain the low overall success rate of the movie industry. One is that many Hollywood executives don't have a deep understanding of their customers' Value Models and what is really important to their audiences.

The second is that even if their Customer Value Models are accurate, they are misallocating resources by over-investing in less important or less effective Value Dimensions and under investing in important and highly effective Value Dimensions. The negative impact of high production costs on profitability suggests that, on average, studios over-spend on the *Production Value* dimension, which is not a critical high importance dimension.

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59 https://webcache.googleusercontent.com/search?q=cache:nJLPRNJdv0oJ:https://pdfs.semanticscholar.org/c960/7aaa7746ec9735a19d0ab2e524e53d20ab7f.pdf+&cd=3&hl=en&ct=clnk&gl=us

60 https://www.marketingcenter.de/sites/mcm/files/downloads/research/lmm/literature/hennig-thurau_et_al._2007_rms_determinants_of_motion_picture_box_office_and_profitability_an_interrelationship_approach.pdf

61 https://stephenfollows.com/hollywood-movies-make-a-profit/

If big budgets, big name stars and big name directors are not the key drivers of Product-Market fit for movies—what else could it be?

Multiple researchers found that the best predictors of movie success were favorable critical reviews and being nominated or receiving an Academy Award. Researchers were able to estimate that, on average, an Academy Award nomination could add $4.8 million to the box office revenue, and winning an Academy Award could add $12 million.[62] Presumably these are proxies used to quantify how compelling is the *Story*. But *how* the story is told visually, and how well it fits the audience's ethical sensibilities, may be just as, or more, important than the story line itself. Maybe, just maybe, the key drivers are more ephemeral and difficult to quantify characteristics such as *Story, Moral*, and *Ethics*.

For each of the last twenty four years, The *Movieguide®,* a self-appointed arbiter of "family-values" in movies, has released a report that rates movies across two dozen ideological criteria including socialism, homosexuality, denigrating Judeo-Christian values, political correctness, revisionist history, environmentalism, feminism, and excessive sex or violence, among others.

According to Dr. Ted Baehr, the founder and publisher of *Movieguide:*

> "*The evidence is abundantly clear. Moviegoers greatly prefer family-friendly movies. Most people want to see good conquer evil, truth triumph over falsehood, justice prevail over injustice, liberty conquer tyranny, and beauty overcome ugliness. They also would like to take their whole family, including their grandparents, to the movies more often."*[63]

The 2016 *Movieguide* Report revealed that family-friendly movies (rated "G" or "PG") were the clear market favorites, generating average box office receipts of $73 million per movie. This was more than *four times* the average R-rated or family "unfriendly" movies, which only averaged $17.5 million - which is just under the median movie production cost

62 https://pdfs.semanticscholar.org/c960/7aaa7746ec9735a19d0ab2e524e53d20ab7f.pdf

63 https://www.movieguide.org/news-articles/the-most-family-friendly-movies-earn-more-money-annual-report-shows.html

of $18 million.[64] In other words, on average, one would expect "family-unfriendly" movies to *lose* money.

Movies that the sizable "*Fred Family"* market segment can feel comfortable taking his whole family (kids, wife and grandparents) to see seems to have high PMF. Even though the family friendly segment is a large market segment, it may not be the largest. Going out to the movies is primarily a social event (no one goes out to movies alone), so there is a large market for "date movies," movies that are targeted at teens and adults to which "*Danny Datenight*" would feel comfortable taking a new date.

With all the summer blockbuster movies that Hollywood has created, one would expect that studio executives are able to recognize a great date night movie when they see it. Not always.

The greatest "B" movie of all time started out as an overtly cliché story concept that none of the big Hollywood studios were willing to invest in. It only had a modest budget and no big-name stars but was being produced by a successful young director named George Lucas who had written an epic "space opera" he called "*Star Wars*."

After investing a considerable amount of his own money into the film, Lucas eventually convinced Fox Studios to invest just $11 million into *Star Wars;* that investment is now widely considered to be the best investment ever made in Hollywood.

Star Wars is the third highest-grossing film of all time and has collected close to $2 billion in world-wide revenues. It also launched a nine-film franchise with enormous global merchandising. In 2018, the total value of the *Star Wars* franchise was estimated at $65 billion, making it the fifth highest-grossing media franchise of all time.

The overwhelming success of *Star Wars* was a complete surprise to Hollywood, but not to Lucas. Whether by instinct or intent, Lucas followed each step in the Product-Market Fit framework.

64 Ibid.

First, Lucas targeted the two largest customer buying segments *Fred Family*, and *Danny Datenight* by making a wholesome PG movie that was both appropriate for families and exciting enough for date night. Even though there are many scenes that show soldiers being shot and killed, the scenes were made as benign as possible, never glorifying or "gorifying" the deaths. He called the soldiers "Storm Troopers," a name taken from the Nazis in WWII, and intentionally never showed the soldiers without their helmets which were designed to make them resemble robots and thus dehumanize them.

Second, like all movie makers, Lucas focused on telling a great *Story.* But why did he succeed where so many others have failed? Lucas had discovered a secret weapon that literally gave him a blueprint for creating a movie with high Product-Market Fit.

Lucas discovered the work of literary historian Joseph Campbell who had studied the great folk-stories and myths throughout history and realized that all the best-loved stories were based on the exact same story "arc" or blueprint. Campbell called this universal story the "*Hero's Journey,*" and he outlined every plot development and twist along the way.

Campbell's research suggested that the closer a story fit the Hero's Journey blueprint, the higher the Product-Market Fit and the more people would like it. In essence, this says that there is a *single* Customer Value Model for *all* stories (at least for men).[65] The objective of a good storyteller is not to change the universal story structure (story Value Dimensions), but to craft a story that *performs* well within each of the plot points in the journey.

Armed with Campbell's story blueprint, Lucas intentionally wrote the *Star Wars* story arc as a sort of fill-in-the-blank exercise to follow each of the plot points of the Hero's Journey outline as closely as possible.

65 It is possible that women have a different story blueprint—perhaps there is also *The Heroine's Journey*.

Steps in the Hero's Journey	**Plot Points in *Star Wars***
• **The Ordinary World:** We see the hero's normal life at the start of the story before the adventure begins.	• We meet Luke Skywalker, a farm boy living on an arid back road planet.
• **Call to Adventure:** The hero is faced with an event, conflict, problem, or challenge that makes him begin the adventure.	• Luke stumbles across a message from a princess in distress and sets out to find someone who can help.
• **The Mentor:** The hero encounters a mentor who can give them advice, wisdom, information, or items that prepare them for the journey ahead.	• Luke meets Jedi Master Obi-Wan Kenobi who can teach him the ways of the "Force" and asks him to come with him on an adventure to rescue the princess.
• **Refusal of the Call**: The hero initially refuses the adventure because of hesitation, fears, insecurity, or other issues.	• Luke refuses the call to adventure because his uncle needs him to help with the farm work (duty, loyalty).
• **Crossing the Threshold:** The hero leaves their ordinary world for the first time and crosses the threshold into adventure.	• Luke and Obi-Wan convince pilot and scoundrel Han Solo to take them to the planet Alderaan to rescue the princess.

Third, Lucas populated his story with familiar (even cliché) character types: the Young Adventurer, the Wizard, the Princess and the Loveable Scoundrel. But he portrayed them in a new and unusual way so that they performed well in each of the plot point dimensions.

Without even knowing it, Lucas used the Product-Market Fit framework to disrupt Hollywood.

He targeted the two of the largest target market segments (families and date nights) and made certain that his product was appealing to both by avoiding over-fit liabilities in controversial dimensions (sexuality, violence, or counter-culture ideologies). Adding more sex and violence, for example, may have increased the film's appeal to the "adult," demographic, but would also have incurred significant over-fit liabilities for the larger key target segment personas, resulting in less total market share.

He chose the best Customer Value Model (the Hero's Journey) to ensure high Product-Market Fit, and he used great creativity to achieve high performance in each of the key plot dimensions.

A nice feature of the movie industry is that movies are not mutually exclusive. One can like both *Star Wars* and *Star Trek*, and buying one does not preclude buying the other. In today's wired world, there is an almost infinite demand for more movies—that is more *good* movies. If the movie industry was more like other industries, we would expect to see many other products like *Star Wars* scattered across the various Value Dimensions, some with more of this, others with more of that. But so far, *Star Wars* still stands alone as a nearly perfect execution of the Customer Value Model called the Hero's Journey.

Summary

CHAPTER 1

Welcome to Hyper-Innovation

The rate of innovation and disruption is accelerating. In the age of Hyper-Innovation, *every* industry, company, product and job will undergo significant change or be disrupted. Companies must step up their ability to innovate in order to stay relevant or be left behind.

CHAPTER 2

The Three Laws of Disruption

The 1st Law of Disruption
Disruption comes to us all.

The 2nd Law of Disruption
All disruption is caused by changes in Product-Market Fit.

The 3rd Law of Disruption
"Delta-Value," the advantage in Product-Market Fit of one product over another, is the primary driver for capturing market share and all other key performance metrics, including loyalty, cost of customer acquisition, and lifetime value of a customer.

CHAPTER 3

Product-Market Fit is the only thing that matters.

The Quantitative Product Market Fit (QPMF) framework is the missing piece in innovation strategy.

The QPMF score is a numeric metric that shows how satisfied customers are with a product, and it allows a company to evaluate the strength of its

products compared to competitors. It also allows a company to evaluate various product designs and market entry strategies.

Delta-Value, the difference between QPMF scores of competing products, measures the competitive advantage of one product over another. It is the primary metric used for designing and evaluating innovation strategies.

Delta-Value can be used to evaluate a wide range of potential product configurations against a large number of potential market segments, allowing companies to design products for specific target markets in order to create the highest chances of success.

CHAPTER 4

The Innovator's Secret Formula

QPMF is a numerical measure of how well a product delivers benefits in each Value Dimension that customers think is important. The QPMF score ranges from 0% to 100% for each Value Dimension and overall. The QPMF model allows one to compare the impact of various product design choices based on how they will affect Product-Market Fit, competitive Advantage (Delta-Value) and cost.

The QPMF model is made of two components:

1. The Customer Value Model

The Customer Value Model is the set, or "portfolio," of Value Dimensions (benefits) that a customer considers important in making a buying decision.

2. Product Performance Score

How well the product satisfies each of the customers' Value Dimensions in their Customer Value Model is measured by the ***Product Performance Score*** in each Value Dimension.

Calculating Delta-Value (ΔV): The Innovator's Secret Formula

The Innovator's Secret Formula for Profitable Innovation:

$$\Delta V = \sum[(Px - Py) \cdot Wn]$$

Px is the performance level of product X in each Value Dimension
Py is the performance level of product Y in each Value Dimension
Wn is the Importance Weight of each Value Dimension.

In words, this says that the overall preference that customers have for one product over another (Delta-Value) is equal to the sum (∑) of Performance of Product 1 minus Performance of Product 2, multiplied by the Importance Weight for each Value Dimension.

CHAPTER 5

The Innovator's Toolkit

All disruption and profitable innovation are driven by changes in Product-Market Fit. Any time a new product is introduced and starts selling like wildfire, or a company suddenly outperforms its competitors, it is because a change in Product-Market Fit is driving the process.

There are only three ways to change Product-Market Fit:

1. Change the performance of the product within one or more Value Dimensions.
2. Change the importance weights of the Value Dimensions.
3. Add or remove Value Dimensions.

CHAPTER 6

The Innovator's Playbook

The Three Types of Product Innovation Plays one can use to change the Product side of the PMF equation:

1. Technology Innovation
2. Design Innovation
3. Business Model Innovation

The Two Types of Market Innovation Plays one can use to change the Market side of the PMF equation:

1. Change Attitudes
2. Change Segments

CHAPTER 7

The Money Transfer Wars

Lessons learned:

- Markets with Low Customer Satisfaction Scores are ready and waiting for disruption.
- We were certain that the most important benefit of the mobile Technology Innovation would be *Convenience,* but we discovered that it was actually *Peace of Mind*. You can be certain but still wrong.
- Sometimes there are non-obvious interactions between dimensions that may be mutually reinforcing or mutually exclusive.
- In the money transfer market, *Price* was the dominant Value Dimension, as prices went down *Price* satisfaction went up. But *Price* also had a non-obvious correlation to *Security* (Peace of Mind), so if the price went too low, it pushed *Security* below the minimum Table Stakes threshold which nullified the buying decision.

CHAPTER 8

More About Value Dimensions

Value dimensions have three (3) important characteristics that an innovator must consider when designing a product and considering possible feature trade-offs.

1. Table Stakes Requirements
2. Diminishing Marginal Utility
3. Over Fit Liability

CHAPTER 9

Lock-out is out. Lock-in is in.

The more satisfied a customer is with a product, the harder it is to get them to switch, and the higher the switching threshold. Customer Lock-In occurs when a product has a high enough PMF score that it is mathematically impossible for a competitor to get customers to switch.

CHAPTER 10

The Secret to Profitable Innovation

The key point is how much does it cost to increase market share and how much is that increase worth in increased revenue? It all depends on how much it costs to increase performance in each Value Dimension, how much that dimension contributes to overall PMF, how much additional market share can be captured and what that is worth.

Appendix
The Only Thing that Matters

In 2009 Marc Andreessen (tech luminary and venture capitalist) posted an article to his blog about Product-Market Fit, which he said was "*the only thing that matters to a startup*." While the concept of Product-Market Fit had been around for a long time prior to Andreessen's posting, he did a good job of summarizing and popularizing the concept. His post quickly became required reading in the startup community in Silicon Valley.

Mr. Andreessen's post on Product-Market Fit is included below for your convenience.

(An online archive of the post is available here: www.bit.ly/1z2b3V)

October 12, 2009

The only thing that matters

This post is all about the only thing that matters for a new startup.
But first, some theory:

If you look at a broad cross-section of startups -- say, 30 or 40 or more; enough to screen out the pure flukes and look for patterns -- two obvious facts will jump out at you.
First obvious fact: there is an incredibly wide divergence of success -- some of those startups are insanely successful, some highly successful, many somewhat successful, and quite a few of course outright fail.

Second obvious fact: there is an incredibly wide divergence of caliber and quality for the three core elements of each startup -- *team*, *product*, and *market*.

At any given startup, the team will range from outstanding to remarkably flawed; the product will range from a masterpiece of engineering to barely functional; and the market will range from booming to comatose.

And so you start to wonder—what correlates the most to success—*team*, *product*, or *market*? Or, more bluntly, what causes success? And, for those of us who are students of startup failure -- what's most dangerous: a bad team, a weak product, or a poor market?

Let's start by defining terms.

The caliber of a startup *team* can be defined as the suitability of the CEO, senior staff, engineers, and other key staff relative to the opportunity in front of them.

You look at a startup and ask, will this team be able to optimally execute against their opportunity? I focus on effectiveness as opposed to experience, since the history of the tech industry is full of highly successful startups that were staffed primarily by people who had never "done it before".

The quality of a startup's *product* can be defined as how impressive the product is to one customer or user who actually uses it: How easy is the product to use? How feature rich is it? How fast is it? How extensible is it? How polished is it? How many (or rather, how few) bugs does it have?

The size of a startup's *market* is the number, and growth rate, of those customers or users for that product.

(Let's assume for this discussion that you can make money at scale -- that the cost of acquiring a customer isn't higher than the revenue that customer will generate.)

Some people have been objecting to my classification as follows: "How great can a product be if nobody wants it?" In other words, isn't the quality of a product defined by how appealing it is to lots of customers?

No. Product quality and market size are completely different.

Here's the classic scenario: the world's best software application for an operating system nobody runs. Just ask any software developer targeting the market for BeOS, Amiga, OS/2, or NeXT applications what the difference is between great product and big market.

So:
If you ask entrepreneurs or VCs which of *team*, *product*, or *market* is most important, many will say *team*. This is the obvious answer, in part because in the beginning of a startup, you know a lot more about the team than you do [about] the product, which hasn't been built yet, or the market, which hasn't been explored yet.

Plus, we've all been raised on slogans like "people are our most important asset" -- at least in the US, pro-people sentiments permeate our culture, ranging from high school self-esteem programs to the Declaration of Independence's inalienable rights to life, liberty, and the pursuit of happiness -- so the answer that team is the most important *feels* right.

And who wants to take the position that people don't matter?

On the other hand, if you ask engineers, many will say *product*. This is a product business, startups invent products, customers buy and use the products. Apple and Google are the best companies in the industry today because they build the best products. Without the product there is no company. Just try having a great team and no product, or a great market and no product. What's wrong with you? Now let me get back to work on the product.

Personally, I'll take the third position -- I'll assert that *market* is the most important factor in a startup's success or failure.

Why?

In a great market -- a market with lots of real potential customers - the market *pulls* product out of the startup.

The market needs to be fulfilled and the market *will* be fulfilled, by the first viable product that comes along.

The product doesn't need to be great; it just has to basically work. And, the market doesn't care how good the team is, as long as the team can produce that viable product.

In short, customers are knocking down your door to get the product; the main goal is to actually answer the phone and respond to all the emails from people who want to buy.
And when you have a great market, the team is remarkably easy to upgrade on the fly.
This is the story of search keyword advertising, and Internet auctions, and TCP/IP routers.

Conversely, in a terrible market, you can have the best product in the world and an absolutely killer team, and it doesn't matter -- *you're going to fail*.

You'll break your pick for years trying to find customers who don't exist for your marvelous product, and your wonderful team will eventually get demoralized and quit, and your startup will die.

This is the story of videoconferencing, and workflow software, and micropayments. In honor of Andy Rachleff, formerly of Benchmark Capital, who crystallized this formulation for me, let me present *Rachleff's Law of Startup Success*:

The #1 company-killer is lack of market.
Andy puts it this way:

- When a great team meets a lousy market, market wins.
- When a lousy team meets a great market, market wins.
- When a great team meets a great market, something special happens.

You can obviously screw up a great market -- and that has been done, and not infrequently -- but assuming the team is baseline competent and the product is fundamentally acceptable, a great market will tend to equal success and a poor market will tend to equal failure. Market matters most.

And neither a stellar team nor a fantastic product will redeem a bad market.
OK, so what?

Well, first question: Since team is the thing you have the most control over at the start, and everyone wants to have a great team, what does a great team actually get you?

Hopefully a great team gets you at least an OK product, and ideally a great product.
However, I can name you a bunch of examples of great teams that totally screwed up their products. Great products are really, really hard to build.

Hopefully a great team also gets you a great market -- but I can also name you lots of examples of great teams that executed brilliantly against terrible markets and failed. *Markets that don't exist don't care how smart you are.*

In my experience, the most frequent case of great team paired with bad product and/or terrible market is the second- or third-time entrepreneur whose first company was a huge success. People get cocky and slip up. There is one high-profile, highly successful software entrepreneur right now who is burning through something like $80 million in venture funding in his latest startup and has practically nothing to show for it except for some great press clippings and a couple of beta customers -- because there is virtually no market for what he is building.

Conversely, I can name you any number of weak teams whose startups were highly successful due to explosively large markets for what they were doing.

Finally, to quote Tim Sheppard: "A great team is a team that will always beat a mediocre team, given the same market and product."

Second question: Can't great products sometimes create huge new markets? Absolutely. This is a best-case scenario, though.

VMware is the most recent company to have done it -- VMware's product was so profoundly transformative out of the gate that it catalyzed a whole new movement toward operating system virtualization, which turns out to be a monster market.

And of course, in this scenario, it also doesn't really matter how good your team is, as long as the team is good enough to develop the product to the baseline level of quality the market requires and get it fundamentally to market.

Understand I'm not saying that you should shoot low in terms of quality of team, or that VMware's team was not incredibly strong -- it was, and is. I'm saying, *bring a product as transformative as VMware's to market and you're going to succeed*, full stop.

Short of that, I wouldn't count on your product creating a new market from scratch.

Third question: as a startup founder, what should I do about all this?

Let's introduce *Rachleff's Corollary of Startup Success:*
The only thing that matters is getting to product/market fit.

Product/market fit means being in a good market with a product that can satisfy that market.

You can always feel when product/market fit isn't happening. The customers aren't quite getting value out of the product, word of mouth isn't spreading, usage isn't growing that fast, press reviews are kind of "blah", the sales cycle takes too long, and lots of deals never close.

And you can always feel product/market fit when it's happening. The customers are buying the product just as fast as you can make it -- or usage is growing just as fast as you can add more servers. Money from customers is piling up in your company checking account. You're hiring sales and customer support staff as fast as you can. Reporters are calling because they've heard about your hot new thing and they want to talk to you about it. You start getting entrepreneur of the year awards from Harvard Business School. Investment bankers are staking out your house. You could eat free for a year at Buck's.

Lots of startups fail before product/market fit ever happens.

My contention, in fact, is that they fail *because* they never get to product/market fit.
Carried a step further, I believe that the life of any startup can be divided into two parts: *before product/market fit* (call this "BPMF") and *after product/market fit* ("APMF").

When you are BPMF, focus obsessively on getting to product/market fit. Do whatever is required to get to product/market fit. Including changing out people, rewriting your product, moving into a different market, telling customers no when you don't want to, telling customers yes when you don't want to, raising that fourth round of highly dilutive venture capital -- whatever is required.

When you get right down to it, you can ignore almost everything else. I'm not suggesting that you *do* ignore everything else -- just that judging from what I've seen in successful startups, you *can*.

Whenever you see a successful startup, you see one that has reached product/market fit -- and usually along the way screwed up all kinds of other things, from channel model to pipeline development strategy to marketing plan to press relations to compensation policies to the CEO sleeping with the venture capitalist. And the startup is still successful.

Conversely, you see a surprising number of really well-run startups that have all aspects of operations completely buttoned down, HR policies in place, great sales model, thoroughly thought-through marketing plan, great interview processes, outstanding catered food, 30" monitors for all the programmers, top tier VCs on the board -- heading straight off a cliff due to not ever finding product/market fit.

Ironically, once a startup is successful, and you ask the founders what made it successful, they will usually cite all kinds of things that had nothing to do with it. People are terrible at understanding causation. But in almost every case, the cause was actually product/market fit.

Because, really, what else could it possibly be?

About the Authors

Chris Sorensen has over twenty five years' experience on the "front lines" of technology innovation. He is an award-winning start-up executive and strategist with a broad range of hands-on operating experience as CEO, COO, Co-founder, and Board Member, for numerous start-ups in diverse areas including software, payments, mobile remittances, consumer e-commerce, multi-media, life sciences, and education. He was instrumental in raising over $30 Million in venture capital for high tech start-up companies in Silicon Valley, returning over $140 million to investors. He holds a Bachelor's degree in Economics and an MBA from the University of Illinois and a Master's Degree in Artificial Intelligence from Northwestern University.

Matt Brocchini has led product development teams at Oracle, RR Donnelley, and numerous startups. As a consultant, he's guided new product development and digital strategy for many leading technology, financial services, and entertainment organizations including Adobe, AXA IM, the International Olympic Committee, and the San Francisco 49ers. He is a proven "Garage to IPO" product executive and has built 6 start-ups with one IPO and two acquisitions. In 2015 he Co-Founded Tinkering Labs which helps kids gain the knowledge, skills, and grit that they will need to become the next generation of global innovators.

Neil Kane is a leading authority on technology commercialization, entrepreneurship and innovation. He built Michigan State University's entrepreneurship program into a Top 25 national ranking in less than three years. He was the co-Executive Director of the entrepreneurship center at Argonne National Laboratory and was the first Entrepreneur in Residence at the University of Illinois. He has founded startups in areas as diverse as food, software, toys and nanotechnology. Earlier he held engineering, sales and business development positions at IBM and Microsoft. With a degree in mechanical engineering from the University of Illinois and an MBA from The University of Chicago, he was named a Technology Pioneer by the World Economic Forum and twice attended their annual meetings in Davos. Recognized for Outstanding Entrepreneurship by the National Science Foundation and named a "Mover & Shaker" by Frost & Sullivan, he was twice an invited witness for a subcommittee of the U.S. House of Representative's Committee on Science and Technology.