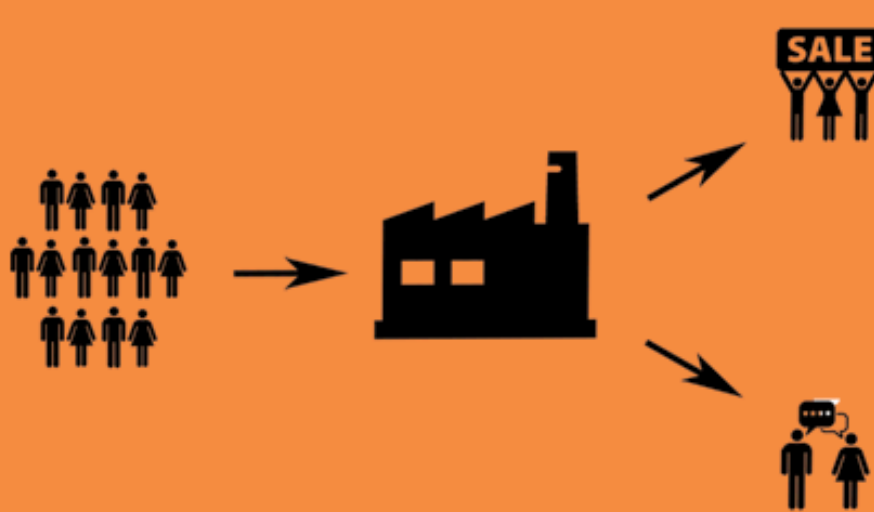


THE CUSTOMER FACTORY

**A Blueprint for Creating
Remarkably Successful Businesses**



ASH MAURYA

Author of Running Lean

INTRODUCTION

It's no accident that some of the biggest breakthrough ideas have evolved from seemingly **small** and often **unintended** discoveries.

Google's now famous PageRank algorithm that powers their mission of "organizing all the world's information" started out as a less ambitious project for ranking academic papers at Stanford University.

Even while their search engine continued to gain market share, Google struggled for years to find a sustainable business model. Their breakthrough came when the company conducted a small experiment pitting an auction-based ad system against traditional banner ads. The results surprised even then CEO Eric Schmidt.

Iterative innovation through experimentation isn't just limited to the "starting-up" stage but can be continuously applied to any organization bringing new products to market.

What companies like Google, Apple, Amazon, Intuit, and Facebook share in common is that they continue to employ a healthy culture of experimentation in everything they do.

In recent years, methodologies like the Lean Startup have emerged that not only drive home this core message, but also provide a practicable framework for driving innovation through experimentation.

But even though we have learned a lot about the mechanics of running innovation experiments, crafting effective experiments that lead to breakthrough insights is still considered more **art than science**.

This book aims to demystify this process.

The Most Important Thing Scientists Do

We have a general misconception about what scientists do which goes back to ninth grade science class. When we think of science, the image of scientists in white lab coats running experiments come to mind. While empirical testing through experiments is a critical activity in science, I would argue it isn't the most important.

First and foremost, scientists **build models**.

They then run experiments to **validate** those models.

One of the most celebrated scientists of our time, Albert Einstein, developed his general and special theories of relativity without running a single experiment. It wasn't until years later, to the astonishment of everyone, that other experimental scientists validated his predictions to remarkable accuracy.

Although we regard Einstein as the ultimate abstract thinker, his way of thinking was remarkably concrete. He developed his theories by running numerous thought experiments using everyday objects like trains, elevators, and clocks. He used these objects to build simpler and more accessible models of the universe that he was then able to continually manipulate in his mind.

He would later attribute these **models**, over science and mathematics, for his **groundbreaking discoveries**.

Entrepreneurs Need Models Too

Like scientists, entrepreneurs can similarly benefit from models but this idea isn't without resistance.

One of the biggest objection I frequently hear is that entrepreneurship isn't a **perfect science**. This is in part fueled by our romantic view of entrepreneurship where words like **visionary, courage, passion, and determination** fill our popular vocabulary.

While all those things have a role to play, they don't detract from treating entrepreneurship as a science.

- Einstein was clearly a **visionary** genius.
- He had **courage** - going against the status quo which was Newtonian physics at the time.
- And he clearly had **passion, and determination** - spending decades working on the same problems.

Lets then dig deeper into more specific objections:

Objection 1:

Business planning is a waste of time

We have traditionally relied on elaborate business planning - spending weeks and months creating the mythical **perfect business plan**. But because new products typically operate under conditions of extreme

uncertainty, this kind of elaborate modeling seldom stands the test of time. In recent years, some entrepreneurs have forgone this planning process altogether which isn't any better.

Like Einstein's models of the universe, what we need aren't overly elaborate models or no models, but rather **simple and accessible models** - one's that capture the most crucial aspects of a problem.

"Building models is very different from proclaiming truths. It's a never-ending process of discovery and refinement."

- Neil Gershenfeld

Lean Canvas is one such model we'll cover in this book that helps entrepreneurs create a simple and accessible one-page business model of their business.

Objection 2:

Customer behavior is too complex to model

The universe is governed by rational laws which are predictable and can be described by mathematics. Customers and markets, however, tend to behave irrationally thus making them unpredictable and too complex to model. Or can they?

There is a whole emerging field of behavioral economics that attempts to describe how customers really make decisions. On the one hand, behavioral economists challenge the conventional notion in economics that customers behave rationally. But on the other, they assert that these behaviors are neither random nor senseless - they are **systematic and predictable**.

In his groundbreaking book, Predictably Irrational, Dan Ariely set out to empirically demonstrate how forces like emotions, relativity, and social norms work to predict such irrational behavior. Once we begin to understand these forces, we can begin to model and even effect these behaviors.

Later in the book, I'll show you charts of actual customer behavior taken from real products that demonstrate this quantitatively.

Objection 3:
Every business is different

And finally, I often hear that every business is unique which limits the utility of models beyond the specific business.

“Happy families are all alike; every unhappy family is unhappy in its own way.”
- Tolstoy, *Anna Karenina*

I would similarly argue that successful businesses are more alike than unlike, and all businesses are ultimately driven by the same universal goal:
To sustainably deliver and capture customer value.

This common goal allows us to go a step further and create meta-models that have widespread utility across a range of businesses.

The Customer Factory is one such meta-model.

About Me

I have been an entrepreneur for over a decade. Throughout that time I've been in search for a better **model** for quickly vetting and building successful businesses.

The odds of building a successful business are **dismally low** but I believed there had to be a systematic and repeatable process that significantly **raises these odds**.

*"If you can't describe what you are doing as a process,
you don't know what you are doing."*

- Edward Deming

Driven by this search for a repeatable process, I started rigorously testing a wide array of principles and tactics drawn from many different sources. One methodology that particularly had a big influence in shaping my thinking was the Lean Startup created by Eric Ries.

I am first and foremost an entrepreneur and continued to build products which still serves as my first testing ground for new ideas. I openly shared my learning on my blog, which then turned into a book (Running Lean), and subsequently into a series of products.

I sold my last business and committed myself fully to making a dent on this problem with a new company - Spark59, whose mission is to **help entrepreneurs succeed**.

Why this book?

As you can probably tell by now, I am a big proponent of using models for problem solving and look for models everywhere.

“Analogies are a pillar of scientific problem solving.”

- Kevin Dunbar

My last book, Running Lean, was also built around a central model or metaphor.

The underlying epiphany behind that book was realizing that the actual product or service we build is **NOT** the true product of a startup.

The **true product** of a startup is a **working business model**.

Thinking of the **business model as a product** was particularly empowering. It allowed me to adapt well-known product development techniques and apply principles from the Lean Startup to the process of building a business - codified as these three meta-principles:

1. **Document your Plan A** using a one-page business model
2. **Identify what's riskiest** in the business model
3. **Systematically test your business model** through experiments

Since publishing my first book, I've had the opportunity to work with hundred of companies ranging from one-person startups to multi-national enterprises where I help them put these principles to practice.

A recurring theme that kept surfacing was that while a lot of these principles were easy to understand, putting them to practice was not.

Digging further, I found that people struggled most in these three areas.

1. They failed to correctly identify the right experiments to run

Distilling a big vision down to the top #1 risk to test can be a non-obvious (but critical) mental leap to make. It is a critical step because failing to correctly prioritize risks leads to needless busy-work and suboptimal experiments.

2. They over built their experiments

Even with top risks correctly identified, crafting the smallest experiment possible that maximizes on speed and learning is considered more **art than science**.

3. They don't measure the right success metrics

At the earliest stages of the product lifecycle, when there are relatively few customers, we struggle with making sense of seemingly small scale and **qualitative** customer feedback.

At latter stages, we have the opposite problem - too much data. Here we struggle to find the right signals from the **noise**.

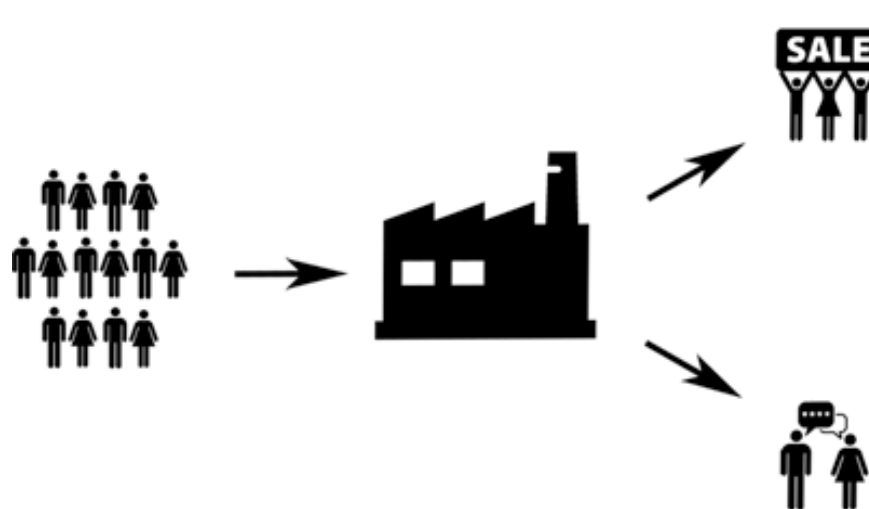
In both instances, I found people drowning in lots of data but failing to reach any actionable insights.

I set out to address these problems and started developing and testing a new meta-model during my workshops and bootcamps with great effect.

That ultimately led to the **Customer Factory** metaphor described in this book.

What is The Customer Factory?

The Customer Factory is a metaphor for your startup or product. It's job is to take in unaware visitors as input and turn them into happy and passionate customers as output.



Happy customers get you paid and doing this repeatedly and efficiently at scale is the **goal of every business**.

This isn't just a cute metaphor.

The factory or manufacturing reference is intentional.

The Lean Startup takes its name from lean manufacturing and adapts several tenets from **lean** (such as shrinking of batch sizes, just-in-time production, and inventory control) to the process of **building products** that deliver on **customer value** while reducing on **waste**.

The Customer Factory metaphor offers a more systems oriented approach and places all entrepreneurs in the manufacturing business, but recognizes that what they manufacture isn't **limited to their products**.

Ultimately, entrepreneurs **build systems** to **manufacture happy customers**.

This direct analogy opens the door to deeper application of Systems Thinking derived from lean manufacturing and related methodologies especially Goldratt's Theory of Constraints (TOC).

Entrepreneurs constantly struggle with where to focus their limited resources across a long list of value creating activities. But, at any given point in time, there are only a few key actions that matter. You need to just focus on those and ignore the rest.

In this book, I'll demonstrate how taking a systems approach to running innovation experiments leads to a much more focused and practicable framework for achieving breakthrough innovation.

Is this book for you?

This book is for:

- First-time and seasoned entrepreneurs
- Intrapreneurs and innovators
- Angel investors and Venture Capitalists
- Academics and students of entrepreneurship
- Wantrepreneurs (people looking to start a business)

If you are either considering building a new product, or already have one, and want to **raise your odds** for building a successful product, this book is for you.

How this book is organized?

This book is organized into three parts.

Part 1: Your Business Model as a System

Part 1 makes the case for thinking of your business model as a system. It draws upon several “systems thinking” concepts from lean and other similar methodologies like the theory of constraints.

I then show you how to use this systems approach to model your business and correctly identify the right experiments to run.

Part 2: The Art of the Scientist

Part 2 takes a deep dive into the world of science. There is no better place to learn about running experiments than from scientists. You’ll learn how to generate ideas, craft testable hypotheses, avoid cognitive biases, use techniques like time-boxing, and deal with failure.

Part 3: Putting it to Practice

Part 3 will walk you through a detailed framework for putting all of this to practice across your organization. I’ll show you how to effectively define, measure, and communicate progress with your internal and external stakeholders.

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Introduction

Even though we have learned a lot about why breakthrough innovation often comes through small and unintended discoveries, crafting effective experiments that lead to these breakthrough insights is still considered more than **art than science**.

This book will demystify this process.

PART 1: YOUR BUSINESS MODEL AS A SYSTEM

Chapter 1: What is a System?

This chapter will make a case for the thinking of your business as a system of interconnected processes. Unlike continuous improvement methodologies like lean which tell us to eliminate waste everywhere, a systems approach helps prioritize where to focus first for maximum impact.

Chapter 2: Model Your Business as a System

This chapter will show you how to map your business into a system using the Customer Factory metaphor. You will learn how to break your product into 3 stages and identify success metrics for each.

Chapter 3: **Baseline Throughput in Batches**

The key to effectively benchmarking a system's throughput is first establishing some standard measures of output and then measuring throughput in batches. This chapter will show you how to establish a standard measure of progress and draw parallels between the concept of production batches and customer segmentation (or cohorts).

Chapter 4: **Identify Constraints**

At any given point in time, a system has a single limiting constraint or weak link. This chapter will show you how to identify your current constraint and prepare you for eliminating that constraint through experiments.

PART 2: THE ART OF THE SCIENTIST

Chapter 5: **Experiment like a Scientist**

There is no better place to learn about running experiments than from scientists. This chapter will show you techniques for crafting effective experiments that avoid a number of cognitive traps that trip up entrepreneurs.

Chapter 6: **Where to Find Good Ideas**

Entrepreneurs are often held back by what they don't know they don't know. This chapter will show you techniques for rapid hypotheses generation that help you uncover good ideas worth testing.

Chapter 7: **Dealing With Failure**

Failed experiments is not only common, but to be expected. This chapter will argue that some of the biggest insights come from failed experiments and show you techniques for uncovering them.

PART 3: PUTTING IT TO PRACTICE

Chapter 8: **The Lean Stack**

This chapter will outline a framework for visualizing your business model as a system and charting your progress through experiments.

Chapter 9: **Communicate Progress**

The key to continuous innovation lies in the power of open conversations with our team, advisors, and investors. This chapter will show you how to effectively communicate progress with your internal and external stakeholders so they result in productive exchanges.

Chapter 10: **Build a Culture of Continuous Experimentation**

This chapter will show you how to cultivate a culture of experimentation in your organization so there is less rhetorical arguing on the whiteboard and more empirical testing outside the building where the real answers lie.