TESTING WITH HUMANS

Free Edition for Non-Profits and Educational Organizations

How to use experiments to drive faster, more informed decision making.

GIFF CONSTABLE

with Frank Rimalovski

Free Edition for Non-Profits and Educational Organizations

Acclaim for *Testing with Humans*

"Answering the question of 'What do you do after you get out of the building?' *Testing with Humans* is a 'must have' book for entrepreneurs."

–Steve Blank, author of The *Startup Owners Manual* and *Four Steps to the Epiphany*

"*Testing with Humans* is the ideal follow-up to Constable and Rimalovski's *Talking to Humans*. It literally takes what they've already taught us to the next level--from customer discovery to experimenting with those customers in order to find product-market fit. All the steps for designing, building, and launching experiments are here, along with a host of examples and great advice born of real experience."

–Eric Ries, author of *The Lean Startup* and *The Startup Way*

"A brilliant blend of principles, examples, templates and checklists on a topic that is so essential to entrepreneurs. This book makes you want to get out of the building and run experiments even if you are not working on a startup!"

–Singari Seshadri, Head of the Stanford University Venture Studio

"*Testing With Humans* explains the scientific method to explore the biggest unknowns in your business. It provides the essential tools to critically test your hypothesis on the most difficult test subject known to man, namely man."

–Errol Arkilic, Founding Program Director, NSF I-Corps & CEO, M34 Capital

"Giff has distilled down years of learnings into quite a useful package. If you're looking to get better at testing and validating ideas in the shortest amount of time (who isn't?!), this is the book for you."

–Hiten Shah, Co-Founder of KISSMetrics, CrazyEgg, and Product Habits

"Every entrepreneur should read *Testing with Humans* and keep it nearby. It is an outstanding combination of readability, rigor and concrete action items for one of the most important and challenging things every entrepreneur must do - define the right hypotheses, properly test them and maximize the learning in the process."

–Professor Bill Aulet, MIT, author of
Disciplined Entrepreneurship

"Entrepreneurs all know that they should talk to customers and run experiments, but that is easier said than done. This book does an excellent job making these concepts concrete and actionable."

–Beth Ferreira, Partner at FirstMark Capital

"From my classroom at Carnegie Mellon to the boardroom of my VC investments, this book will join *Talking to Humans* as a critical resource helping those teams validate their ideas."

–Sean Ammirati, VC and author of *The Science of Growth*

"*Testing with Humans* is a must read for every product team that wants to build the right thing. It's a practical guide to experimentation, clearly explaining many types of experiments and breaking down exactly how to run them."

–Melissa Perri, author of *The Build Trap*

"Giff and Frank have done it again. This practical, tactical book explains — to entrepreneurs, product managers and veteran practitioners alike — why you need to run experiments, how to do it and what to do with what you learn. It's direct, concise and immediately useful. Read it this morning. Run your first experiment this afternoon."

–Jeff Gothelf, author of *Sense & Respond* and *Lean UX*

"*Testing with Humans* is 70% practical, 30% inspirational, and 100% of it is stuff I wish I'd known 20 years ago."

–Jeff Patton, author of *User Story Mapping*

"Entrepreneurs need confidence, but not arrogance. Entrepreneurial arrogance is an early warning sign of impending doom. Entrepreneurial confidence is based on an inquiring mind, that has beliefs, and is open to testing them. In this book Constable and Rimalovski guide us on a learning journey to test our entrepreneurial assumptions - the key to gaining true entrepreneurial confidence, mitigating risks and moving forward toward success."

–Jerome Engel, U.C. Berkeley and Founding National Faculty Director, NSF I-Corps

"*Testing with Humans* fills a much-needed gap in the Lean Startup and innovation strategy world. Many espouse evidence-based testing approaches, but easier said than done — or taught. Until now."

–Edmund Pendleton, Lead Instructor NSF and NIH I-Corps

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Introduction

*"In general we look for a new law by the following process: first
we guess it. Don't laugh — that's really true. Then we compute the
consequences of the guess to see what, if this law is right, what it would
imply. Then we compare those computation results to nature, i.e.
experiment and experience. We compare it directly to observation to
see if it works.*

*If it disagrees with experiment, it's wrong. That simple statement is the
key to science. It doesn't make a difference how beautiful your guess is,
it doesn't make a difference how smart you are, who made the guess or
what his name is — if it disagrees with experiment, it's wrong. That's
all there is to it."*

RICHARD FEYNMAN
Physicist

WHY THIS BOOK?

To successfully pull off a startup, you need more than grit and perseverance. You have to nail the vision, timing and execution. Get any one of those wrong, and you're left with little more than hard lessons and wasted time and money. Vision comes first, but you've also got to get the details right across your entire business model: your choice of initial target customer, revenue and pricing model, customer acquisition approach and channels, product design and creation, and much more. Before you rally a team, raise money, or move heaven and earth to bring a company into being, wouldn't you want to de-risk your vision, timing and execution? There are two great places to start: talking to your potential customers and running experiments.

In 2014, Frank and I published *Talking to Humans*, aimed at the first of those two. Our goal was to help entrepreneurs learn how to speak directly with potential customers in order to vet and hone their ideas — what the startup world now calls "customer discovery". Little did we know that the book would be read by many tens of thousands of people and picked up by leading universities, accelerators, the National Science Foundation's I-Corp program, and companies across the USA and around the world.

But customer discovery is not enough on its own. Talking with other people will give you the strongest leaps of inspiration and understanding, but experiments give you the strongest proof. An experiment is a test designed to help you answer the questions "Should we do this?" or "Am I right about this?" If you are open to learning, the insights from your experiments will help you refine your creation and improve your odds of success.

Oddly enough, this isn't the way creative and entrepreneurial brains typically like to work. Instead, we imagine a desired future, we design what needs to happen to bring that future about, and we are then blazingly impatient to get going and bring that future about.

That combination of conviction and impatience is an incredible strength for an innovator, but it is also a devilish saboteur. After all, if you run really fast in the wrong direction, you are further from your goal.

WHAT'S IN THE BOOK

Experiments come in all shapes and sizes, but this book is about experiments designed to validate (or invalidate) new product and business ideas. This will be particularly, but not exclusively, applicable to startups, product teams, and innovation teams. Like *Talking to Humans*, this book is a concise, practical primer. It begins with a fictional story of two engineers-turned-entrepreneurs, and then shifts into a mix of tactics and theory on designing and running experiments. We also talk about how to foster more of a culture of experimentation within your company.

In this book, we have purposefully shied away from the term "MVP" (minimum viable product). The term was popularized by the Lean Startup movement, which played a major role in elevating the importance of running experiments. However, the term itself has become confused. Some take MVPs as an excuse not to have a clear vision and direction, which will never lead to a great business. Others treat MVPs as guidance to put out a crappy first version of a product, which doesn't teach you very much and can be self-defeating. We think these faults lie more in the interpretation than the theory, but regardless, we want to keep things simple. An experiment is a simple concept: it is a temporary process intended to test a hypothesis.

Even though the book begins with that wonderful quote from physicist Richard Feynman, what you won't find here is a religious application of the scientific method or statistical methodologies. Most startups simply do not have time to shoot for statistical significance. Furthermore, unlike science where there are immutable

laws of nature, in business we deal with a far more irrational and unpredictable target: human beings. The experiments we talk about aren't driving towards incontrovertible truth. Instead, experiments inform better decisions.

This book is a small part of a larger canon on modern innovation and entrepreneurial techniques. For those interested in reading more, we've listed some of our favorite books and authors in the Appendix.

Experiments can feel challenging to run at first. People often start out with tests that are too complex, too long, or too product-centric. You'll find that things get easier and sharper with a bit of practice and the right mindset. We hope this book helps accelerate that process.