



DIGITAL DISCIPLINES

Attaining Market Leadership via the
Cloud, Big Data, Social, Mobile, and
the Internet of Things

Joe Weinman

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DIGITAL DISCIPLINES

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CLOUD, BIG DATA, SOCIAL, MOBILE, AND
THE INTERNET OF THINGS

Joe Weinman

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“Dedicated to Mom and Dad”

CONTENTS

FOREWORD xvii

PREFACE xix

ACKNOWLEDGMENTS xxiii

PART ONE—Overview and Background

CHAPTER 1 Digital Disciplines, Strategic Supremacy 3

From Value Disciplines to Digital Disciplines	4
Information Excellence	7
Solution Leadership	8
Collective Intimacy	9
Accelerated Innovation	10
Exponential Value Creation	11
The Leadership Agenda	13
Information Technology in Context	15
Notes	17

CHAPTER 2 Value Disciplines and Related Frameworks 21

Value Disciplines	22
Operational Excellence	23
Product Leadership	24
Customer Intimacy	25
Importance of Focus	26
The Unbundled Corporation	27
Business Model Generation	30
Michael Porter and Competitive Advantage	31
Blue Ocean Strategy	33
Innovation: The “Fourth” Value Discipline	34
Notes	36

CHAPTER 3 Digital Disciplines 39

Information Excellence	40
Solution Leadership	42

x CONTENTS

Collective Intimacy	43
Accelerated Innovation	45
All of the Above?	47
Notes	49
CHAPTER 4 Digital Technologies	51
The Cloud	52
Big Data	54
Mobile	57
The Internet of Things	59
Social	60
Notes	61

PART TWO—Information Excellence

CHAPTER 5 Operations and Information	65
Processes	66
Process Advantage	67
Process Optimization	72
Asset Optimization	74
Business Value of Information	76
The Role of Information Technology	78
Caveats	79
Notes	80

CHAPTER 6 The Discipline of Information Excellence	83
From People to Machines	85
From Physical to Virtual	87
From Virtual to Digital	88
From Processes to Experiences	89
From Operations to Improvement	90
From Static Design to Dynamic Optimization	91
From Mass Production to Mass Personalization	92
From Cost Reduction to Revenue Generation	92
From Direct to Indirect Monetization	93
From Touchpoints to Integration	94
From Firms to Networks	95

From Data to Actionable Insight	97
From Answers to Exploration	98
Notes	99
CHAPTER 7 Burberry—Weaving IT into the Fabric of the Company	103
Operational Excellence and Product Leadership	105
From Operational Excellence to Information Excellence	105
From Physical to Virtual	106
From Virtual to Digital	107
From Processes to Experiences	109
From Mass Production to Mass Personalization	110
From Cost Reduction to Revenue Generation	111
From Touchpoints to Integration	112
From Firms to Networks	113
Notes	114
PART THREE—Solution Leadership	
<hr/>	
CHAPTER 8 Products, Services, and Solutions	119
Competitive Strategy	120
Product Elements	121
The Experience Economy	125
Pricing and Business Models	126
Notes	129
CHAPTER 9 The Discipline of Solution Leadership	131
From Products and Services to Solutions	135
From Generic and Expected to Augmented and Potential	136
From Transactions to Relationships	138
From Sales Results to Customer Outcomes	139
From Standard Products to Custom Solutions	142
From Products and Services to Experiences and Transformations	143
From Standalone to Social	144
From Product to Platform	145
From Engineered to Ecosystem	146
Notes	148

CHAPTER 10 Nike—A Track Record of Success	151
From Products to Solutions	153
From Generic and Expected to Augmented and Potential	154
From Transactions to Relationships	155
From Sales Results to Customer Outcomes	155
From Standard Products to Custom Solutions	156
From Products to Experiences and Transformations	156
From Standalone to Social	158
From Engineered to Ecosystem	158
Nike and the Other Digital Disciplines	159
Notes	163

PART FOUR—Collective Intimacy

CHAPTER 11 Customer Experience and Relationships	167
Customer Intimacy	171
A Broad Spectrum of Relationships	173
Dimensions of Interaction	174
Collaborative and Content Filtering	176
Notes	178

CHAPTER 12 The Discipline of Collective Intimacy	181
From Transactions to Relationships	182
From Relationships to Intimacy	184
From Physical to Virtual	185
From Virtual to Digital	187
From Company to Community	188
From People to Algorithms	188
From Individual to Collective	191
Notes	194

CHAPTER 13 Netflix—Entertaining Disruption	197
Information Excellence	199
Accelerated Innovation	200
Solution Leadership	201
From Relationships to Intimacy	202

From Physical to Virtual	203
From Virtual to Digital	204
From Company to Community	205
From People to Algorithms	205
From Individual to Collective	207
Notes	209

PART FIVE—Accelerated Innovation

CHAPTER 14 Innovation and Transformation 213

Successful Commercial Innovation	215
The Innovation Process	219
Innovation Principles	221
Innovation of Products, Processes, Relationships, and Innovation	225
Business Model Innovation and Corporate Transformation	227
Notes	230

CHAPTER 15 The Discipline of Accelerated Innovation 233

From Solitary to Collaborative	235
From Internal to External	237
From Closed to Open	239
From Inside-Out to Outside-In	241
From Products to Platforms	242
From Linear to Agile	243
From Employees to Crowds	245
From Salaries to Prizes	247
From Theoretical to Data-Driven	248
From Human to Machine	250
From Incremental to Transformational	251
Notes	252

CHAPTER 16 Procter & Gamble Cleans Up 255

From Solitary to Collaborative	257
From Internal to External	258
From Closed to Open	260
From Inside-Out to Outside-In	262

From Employees to Crowds	263
From Incremental to Transformational	264
Notes	265

PART SIX—Successful Execution

CHAPTER 17 General Electric—Flying High 269

Digital Disciplines at GE	271
Software at GE	273
Information Excellence	274
Solution Leadership	276
Collective Intimacy	277
Accelerated Innovation	279
Notes	281

CHAPTER 18 Human Behavior and Gamification 283

Human Behavior	285
Gamification	289
Gamifying Information Excellence	290
Gamifying Solution Leadership	291
Gamifying Collective Intimacy	292
Gamifying Accelerated Innovation	293
Gamification across Disciplines	294
Notes	295

CHAPTER 19 Opower—The Power of the Human Mind 299

Human Behavior and Energy Consumption	301
Opower, Information, and Intimacy	303
Notes	305

CHAPTER 20 Digital Disasters 307

Strategic Errors	308
Cyberattacks	310
Software Design and Development Challenges	312
Operational Issues	314
Unintended Consequences	315
Erratic Algorithms	316

Politics and Pushback	319
Digital Disappointments	319
Notes	323

PART SEVEN—What's Next?

CHAPTER 21 Looking Forward 329

The Exponential Economy	329
Future Technologies	333
Opportunities	336
Critical Success Factors	337
Next Steps	340
Notes	342

ABOUT THE AUTHOR 345

INDEX 347

FOREWORD

Marketplace success is much sought after, but hard to achieve. In most industries, only a handful of firms manage to outperform the majority of their contenders. Their shining results make them stand out—in terms of customer appeal, financial results, or growth prospects. Yet even they are subject to decline in a turbulent world where customer power and buyers' demands are mounting relentlessly.

Attaining market leadership is no sinecure. This was already evident some 20 years ago in the research that led to my coauthored book *The Discipline of Market Leaders*, a #1 bestseller that was published in 18 languages. The fundamental and lasting truth exemplified by the market-leading companies featured in that work, as well as the many outperformers I have studied since, is that they succeeded by not being all things to all people. Instead, they developed and honed the discipline to deliver unsurpassed value to particular customer segments on just those dimensions most pertinent to these customers—such as best total cost, best solutions, or best products. On top of that, they recognized the imperative to provide better value year after year in order to sustain their appeal to ravenous and switch-prone customers—whether through faster, cheaper, and better offerings, special treatment, or otherwise.

Then as well as now, customers want more—and they want to be delighted and surprised. Today nothing has more power to surprise than the digital juggernaut that is transforming marketplaces around the world.

In my research 20 years ago, the Internet barely registered as a crucial component of market leadership. The word *internetworking* appeared just once in my book, and the term *digital* did not come up at all. How things have changed. Today, technology is a pervasive strategic force in any market-leading company that I know, and is getting recognized as such in a rapidly growing number of other firms. In light of that, it is no surprise that as of April 2015, the world's highest-ranking companies by stock market capitalization were Apple and Google, with Microsoft, Facebook, Oracle, and Amazon not far behind, and that most of the fastest-growing enterprises can be found in the digital field.

Considering the rampant growth and importance of digital capabilities, Joe Weinman's *Digital Disciplines* could not be more timely. The immense merit of his work lies in illuminating how the dizzying array of current and emerging digital technologies are shaping and transforming the ways that companies create better customer value and, hence, attain market leadership. His insights and case studies provide a blueprint for companies of all sizes in all

industries to upgrade their strategies so as to compete effectively in the digital era. The connection of his four digital disciplines with the enduring disciplines of market leaders that were outlined in my earlier book is uncanny. To me, *Digital Disciplines* shows how technology is super-charging the way customer value gets created. Weinman, in effect, is putting my original disciplines on steroids.

Digital Disciplines provides rich and interesting detail as to technology's potential and impact on customer strategy. Even with a pretty good grasp of the subject matter, I found the book eye-opening, especially in terms of the multitude of possibilities it covers that are worth exploring, and the dangers that could befall those who do not fully appreciate the necessities of the digital era.

Fred Wiersema
Customer Strategist, Chair of the B2B Leadership Board,
Institute for the Study of Business Markets at Penn State, and
coauthor of the top-selling *The Discipline of Market Leaders*

PREFACE

In 1993, two management consultants named Michael Treacy and Fred Wiersema wrote a popular *Harvard Business Review* article titled “Customer Intimacy and Other Value Disciplines.” They further detailed their insights in the best-selling *The Discipline of Market Leaders*. Based on a multiyear study of dozens of companies, they argued that to be successful, firms needed to create unique value for customers through operational excellence, product leadership, or customer intimacy.

Operational excellence focuses on developing differentiated processes, for example, those that offer lower prices or greater convenience. For example, Dell had rethought the PC business, replacing store-based channels that pushed standard make-to-stock configurations with a direct-to-consumer model for assemble-to-order products, increasing convenience while lowering price-points.

Product leadership involves leading-edge products and services. Treacy and Wiersema highlighted Johnson & Johnson’s Vistakon unit, which rapidly acquired the rights to and scaled up production of an innovative disposable contact lens technology branded Acuvue.

Customer intimacy entails better relationships, driven by a deep understanding of customer problems and a willingness to solve them, enabled by flexible processes, systems, people, and culture. Treacy and Wiersema pointed out that Home Depot clerks are happy to spend whatever time a customer needs to solve a home repair problem; the same for IBM sales teams.

The insights of the value disciplines approach are as true today as they were then, but the implementation details have changed—significantly. Treacy and Wiersema were well aware of the opportunities inherent in information technology, highlighting, for example, how General Electric used a system called “Direct Connect” to enable independent dealers to utilize a stockless distribution model and sell from virtual inventory, simultaneously giving GE better visibility into customer orders, dealers higher profits, and customers better service.

However, the IT of that era largely involved enterprise systems. The web was in its infancy and mobile data was nonexistent. Now we live in an era where even three-year-olds play with smartphones and tablets more powerful than the mightiest supercomputers of those bygone times. Today, the Internet permeates our lives, with massive bandwidth increases enabling new services, such as home movie streaming and mobile social networking. Sensors can detect heartbeats and tremors, GPS can track vehicles, the cloud can apply

sophisticated algorithms against enormous sets of not just numerical data, but videos, speech, and images.

This book attempts to answer a simple question: How should the Treacy and Wiersema value disciplines framework be updated for this new world of cloud computing, big data and analytics, social networks, broadband wireless and wireline connections, and smart, connected things ranging from thermostats to jet planes? In other words, how do digital technologies impact value disciplines to become digital disciplines?

Simply put: Everything stays the same, yet everything changes.

Better processes can still drive a competitive edge, but mere (physical) operational excellence is no longer sufficient. It must be enabled, complemented, and extended through *information excellence*, including real-time dynamic optimization algorithms and the seamless fusion of physical and virtual worlds.

Better products and services are still desirable, but it is no longer sufficient to improve a standalone product. Today, products are not just digital and smart but connect to back-end cloud services, and from there onward to social networks and infinitely extensible ecosystems. The same goes for the physical embodiment of services—for example, healthcare services increasingly involve pills, pacemakers, and equipment connected to patient data repositories, diagnostic systems, and hospital asset management systems.

Better customer relationships are no longer just about caring, empathetic customer service employees or dedicated account teams willing to spend time on the golf course to get to know the customer. They are also about better meeting each individual customer's needs, by deriving subtle insights based on big data from all customers collectively. Examples include upsell/cross-sell in retail, more targeted recommendations in entertainment, and personalized medicine.

Finally, in today's hypercompetitive world, innovation is a critical imperative: delivering higher-quality results, faster, and more cost-effectively. Innovation encompasses not just products and services but also processes and relationships, and can benefit from new cloud-enabled constructs such as idea markets and challenges, which extend the innovation team beyond the company to the entire world.

After researching dozens of firms, the successful ones all seem to have exploited one or more of these themes; the fallen ones have largely failed to do so. Amazon.com versus Borders, Netflix versus Blockbuster, Wikipedia versus *Encyclopedia Britannica*, WhatsApp versus telco-based texting, and dozens of other cautionary tales offer object lessons in harnessing information technology to disrupt and reimagine industries and outmaneuver competitors, or be overtaken by those who can.

This book offers what I hope will be valuable insights to boards and senior executives such as CEOs, CIOs, CDOs, CFOs, and CMOs (chief executive, information, innovation, digital, financial, and marketing officers), middle management, and line personnel in and outside of information technology. It is a book squarely at the intersection of business and technology, yet largely nontechnical. In a world where virtually all consumers are digital natives or digital immigrants, IT is no longer the province of the glass-house datacenter but an important weapon that virtually any enterprise—in business or government—must wield to be successful.

An implicit theme of the book is that winners win, not just due to random luck, but due to repeatable, structured principles. These principles align with and complement each other. For example, a focus on customer outcomes requires a continuous relationship with the customer, one that is hard to achieve with a standalone product, but one that can be enabled through a connected solution.

The book is structured to be readable from cover to cover, yet each chapter is also self-contained. As a by-product, this necessitates a bit of repetition. The book provides an introduction to some key technologies for those who are more business oriented, and an introduction to some key business strategy concepts for those who are more technology oriented.

The first few chapters provide an overview of the key insights in the book, background on Treacy and Wiersema's value disciplines framework and related strategy models, a more detailed overview of the digital disciplines, and an overview of the five key technologies—cloud, data, social, networks, and things—which, together, are the enabling platform for this new wave of competitive strategies.

Following the introductory and overview matter, there are four main sections, one to address each of the four digital disciplines: information excellence, solution leadership, collective intimacy, and accelerated innovation. Each section has three chapters: an introduction or refresher on essential background ideas such as Porter's Five Forces model or the elements of innovation, the key themes and trends defining the discipline, and a specific case study. Case studies for Burberry, Nike, Netflix, Procter & Gamble, and General Electric provide real examples of how companies are applying the disciplines.

Because successful execution and customer adoption happen largely through people, two chapters focus on human behavior and gamification; one addresses general principles, the other provides a case study on Opower, a company that is heavily leveraging principles of human motivation in conjunction with information technology to simultaneously achieve customer, business, and societal objectives.

Finally, as with any initiative, there can be challenges and caveats in successful implementation. These range from strategic alignment and project management to concerns over privacy and security.

Technology marches forward. Twitter, Facebook, Instagram, WhatsApp, Snapchat, iPads, iPhones, and many of the other elements of the modern digital age didn't exist a few years ago, and change is speeding up, not slowing down. The last chapter addresses technologies on the horizon, and offers thoughts on how to apply the book's insights.

I have attempted to capture the intent of what Treacy and Wiersema eloquently and insightfully articulated, but it's hard to interpret one's own thoughts two decades later, much less someone else's. Any errors or misinterpretations are, of course, my fault.

It is a standing curse on books like these that companies that are held up as paragons can succumb to market turbulence, which has done nothing but increase, in no small part due to information technologies. In fact, during the time it took to write this book, the companies highlighted have adjusted strategies, divested brands, made acquisitions, discontinued products and initiatives, and faced new global competitors. However, the case studies represent a point-in-time snapshot of the issues, approaches, and successes of real companies facing turbulent markets, applying the strategies herein.

A number of books covering strategy and information technology oriented toward a leadership audience provide principles and detail themes such as empowerment and transparency. I'm sure these are well reasoned, but they don't seem to provide clear direction to leaders in industries facing increasing competition and the threat of digital disruption. It's my hope that the insights in the following pages can provide you with a framework with which to pursue a focused digital strategy and attain market leadership in your industry.

Joe Weinman
June 2015

ACKNOWLEDGMENTS

The most important acknowledgment is surely to Michael Treacy and Fred Wiersema, who created a clear yet powerful framework for attaining competitive advantage while driving customer value. Without their original and compelling insights, this book wouldn't exist.

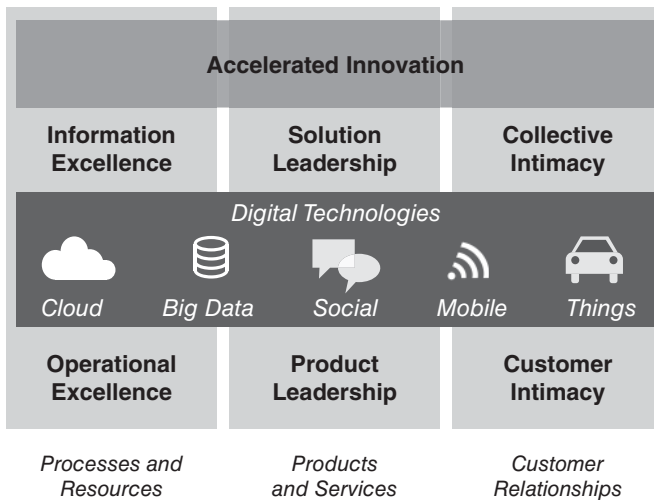
The next major acknowledgment is to all of the global innovators at companies large and small, old and new, who, in leading their organizations, have created such a rich set of case studies from which I could elicit points to illustrate and expand my thesis. As detailed in the book, this includes CEOs and key executives such as Angela Ahrendts (now at Apple), Christopher Bailey, and John Douglas at Burberry, Jeffrey Immelt, Bill Ruh, and Darin DiTommaso at General Electric, Reed Hastings and Todd Yellin at Netflix, Mark Parker and Stefan Olander at Nike, A.G. Lafley at Procter & Gamble, and Dan Yates and Alex Kinnier at Opower, as well as the leaders and innovators at the dozens of companies mentioned in the book ranging from Amazon.com to Zappos.

I'd also like to acknowledge helpful fact checks and support for interviewing executives from the companies highlighted in the case study chapters. This includes support from Joris Evers at Netflix, Holly Gilthorpe and Jennifer Villarreal at GE, Carly Llewellyn, Margot Littlehale, and Melissa Roberts at Opower, and their counterparts at Burberry, Nike, and P&G. I'd also like to thank the peer reviewers who provided helpful feedback and sanity checks on clarity and content: Tim Horan, Dawn Leaf, Jonathan Murray, Steve Sims, and especially Marla Bradstock. Needless to say, I am responsible for any remaining errors or inaccuracies.

A project like this can't come to fruition without a publisher able to appreciate the potential of a concept and demonstrate great flexibility. I have been fortunate to work again with the editorial and production team at John Wiley & Sons, including Sheck Cho, Stacey Rivera, Maria Sunny Zacharias, and Brandon Dust.

PART ONE

Overview and Background



CHAPTER 1

Digital Disciplines, Strategic Supremacy

On January 24, 1848, James W. Marshall, a carpenter from New Jersey, was helping to build a lumber mill on the American River near Sacramento when he noticed a twinkle in the water. It was the gold nugget that launched the Gold Rush, which, in turn, led to a population explosion and rapid statehood for California as fortune hunters and their suppliers—selling picks, shovels, food, libations, and more—descended on the territory from around the globe. The nonnative population of California grew from under 1,000 at the time of Marshall’s discovery to over 100,000 by the end of the next year, thanks to the influx of Forty-Niners—mostly men who left their families behind to find riches. Even when the Gold Rush ended, much of the population remained, and so did a need for business associates, families, and friends to communicate with each other across the emerging nation.

To help meet this need, the Pony Express was launched on April 3, 1860. It could deliver letters and small packages between St. Joseph, Missouri, and Sacramento in only 10 days, a breakthrough for that era. The Pony Express accomplished this feat by using a cleverly engineered system of over 150 stations, hundreds of specially selected horses, lightweight riders, specially designed lightweight saddles, and clever “hacks” such as a horn to alert an upcoming station to ready the next horse. The stations were spaced about 10 miles apart, the distance a horse could go at top speed before tiring. In what was a forerunner to today’s packet-switched networks such as the Internet, a lightweight pouch containing the mail was handed off from rider to rider, each rider exchanging horses several times before being replaced himself.

On October 24, 1861—a year and a half after the Pony Express began deliveries—the first transcontinental telegraph network was completed, and in less than 48 hours the Pony Express ceased operations. Thus was a miracle of *operational excellence* supplanted by early information technology (IT) and what might be called *information excellence*. It foreshadowed the critical need to exploit IT—or be trampled and left in the dust.

From Value Disciplines to Digital Disciplines

To help companies avoid a fate like that of the Pony Express, this book delineates four *digital disciplines*—information excellence, solution leadership, collective intimacy, and accelerated innovation—by which IT can galvanize strategy, drive customer value, maximize competitive differentiation, help attain market leadership, and create wealth. The current darlings of Silicon Valley, such as Uber, Nest, Netflix, and Apple, utilize one or more of these strategies, but so can companies in other verticals and with century-old legacies.

Information excellence, as signaled by the transcontinental telegraph, exploits information technology, sophisticated algorithms, and the synthesis of digital and physical worlds to drive better asset utilization, better physical operational excellence, and better business processes: processes that are faster, more cost effective, higher quality, more flexible, more sustainable, or otherwise create differentiated value. Assets can be optimized with information through techniques such as better operations planning to reduce idle time and through predictive maintenance to reduce unplanned downtime.

Uber is a good example of information excellence: It rethought transportation processes by using mobile devices and matching algorithms, and improved asset utilization by using on-demand drivers and their vehicles. Other companies use similar approaches: Airbnb for living spaces; Topcoder for developers. Other examples of information excellence include optimized operations for package delivery firms such as UPS and at ports such as the Hamburg Port Authority and integrated online-offline omni-channel experiences at retailers such as Burberry, featured in Chapter 7.

Solution leadership represents the evolution of standalone products and services to smart, cloud-enabled product-service systems and ecosystems, where firms focus on customer outcomes, one-time sales become ongoing relationships, and competitive advantage evolves from mere product features to ecosystems, communities, and future potential. Products such as cars, thermostats, and dishwashers are being connected to the cloud, but so are services. For example, healthcare services are becoming delivered in part by medical equipment such as connected pills, pacemakers, and CT (computed tomography) scanners.

The Nest Learning Thermostat is a smart device that connects across Wi-Fi to the cloud. From there, it can be remotely controlled by a smartphone, and perhaps someday through smart electric grid demand response and dynamic-pricing based algorithms. Other examples include jet engines from GE that tie to cloud-based analytics and wearables from Nike and its partners that link to cloud services and social networks. Nike's digital strategy is covered in Chapter 10.