DIGITIZED

This page intentionally left blank

DIGITIZED

Industry Transformation and Disruption Through Entrepreneurship and Innovation

Edited by

GALI EINAV
Adelson School of Entrepreneurship at IDC Herzliya, Israel

United Kingdom – North America – Japan
India – Malaysia – China

Emerald Publishing Limited
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2019

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN: 978-1-78973-622-9 (Print)
ISBN: 978-1-78973-619-9 (Online)
ISBN: 978-1-78973-621-2 (Epub)

ISOQAR certified Management System, awarded to Emerald for adherence to Environmental standard ISO 14001:2004.

Certificate Number 1985
ISO 14001

INVESTOR IN PEOPLE

To Levi and Aya

This page intentionally left blank

CONTENTS

ABOUT THE AUTHORS

John Carey is Professor of Communication and Media Management at Fordham University's Gabelli School of Business. He also serves on the advisory board of the Media Majlis, a museum devoted to media in the Middle East at Northwestern University in Doha, Qatar.

Gali Einav, PhD, is Head of the International Undergraduate Program in Entrepreneurship and the "Upstart" Minor Track Program at the Adelson School of Entrepreneurship at IDC Herzliya. She holds a PhD in Interactive Television from Columbia University. Dr. Einav has served as an Adjunct Professor of Digital Media at IDC Herzliya since 2008 and teaches digital media at the Katz School of Marketing at Yeshiva University in NYC. Her research interests include the impact of digital transformation on media industries and consumer behavior. Dr. Einav is an Advisory Board member for Nielsen Innovate, an early-stage investment arm of Nielsen. Previously, she worked in the Business Planning and Development team at Canoe Ventures, a consortium of US cable operators developing interactive ad formats for live television. Prior to that, Dr. Einav led the Digital Insights and Innovations Research group at NBC Universal, overseeing strategic, business, and consumer research across digital platforms. She has published and edited a variety of publications, including "Transitioned Media – A Turning Point into the

Digital Realm" and "Consumer Behavior in the Digital TV Environment and Beyond."

Shuli Gilutz, PhD, specializes in UX research, assessment, and strategy, of interactive environments for children. She works in both industry and academia, teaching, advising, and conducting research, in a variety of user experience settings, as well as a strategic consultant for development and design of children's digital experiences.

Revital Hollander received her Doctorate in Computer Science from Tel-Aviv University. She also graduated from the Rimon School of Music. Revital is a faculty member at Adelson School of Entrepreneurship at IDC. The main focus of her research, entrepreneurial and educational activities are innovative technologies, musical interfaces, and experiences that enhance creativity.

Nathan Lipson is the founder and CEO of Perpetix, a startup that's building the world's first global, publisher-to-publisher syndication marketplace. Prior to that, and for almost 17 years, Nathan held various reporting and editing posts at Israel's *Haaretz/TheMarker* newspapers. Nathan has an MBA from the Tel Aviv University.

Lydia Loizides is the President of Talentedly, a next-generation online talent development platform that pairs content with coaches. A serial entrepreneur, Lydia has extensive experience in early and mid-stage startups. She serves as an advisor to the NYC DOE Office of Post Secondary Readiness, working on supporting Career Development and Skills Readiness programs for the largest public school system in the United Sates. She has served in numerous Board positions at the National Academy of Television Arts & Sciences and Fort Tyron Park Trust. She has published over 300 opinion articles and research papers in academic journals, trade periodicals and media outlets. She is a frequent speaker at national leadership and professional trade

associations and conferences including Council for Urban Professionals and the IEEE WIE International Leadership.

Liraz Margalit, PhD, is a Web Psychologist, a Keynote Speaker, and Head of Behavioral Research at Clicktale. Her consumer behavior research was awarded the OBE, *Online Business Excellence* for 2016 as well as the Best of Neuromarketing 2016 and was chosen as CMSWire contributor of the year 2017. Her research papers and studies can be found in top business magazines such as *Entrepreneur*, *TechCrunch*, and *Forbes*. She also writes an ongoing blog for *Psychology Today* named "Behind Online Behavior."

Daniel Oppenheim earned his Doctorate in Computer–Music from Stanford, then co-founded the Computer Music Center at IBM, where he researched the synergies between music, creativity, computer science, and cognitive computing. He is currently founding Director of the Interdisciplinary Center for Research in Music and Mind at Bar Ilan University.

Andrew Phillips is a Researcher at NYU's Music and Audio Research Lab (MARL), a doctoral candidate in Music Technology, and a sound artist. His research involves critical discourse around the reciprocal relationships between society, technology, and music, with a special emphasis on ideological influences embedded in software for music and creative applications.

Daniel Ravner is the founder and CEO of the multi-award-winning theperspective.com. A veteran of content, media, and marketing worlds, Daniel Ravner's, former roles include being Head of Digital at Armoza Formats, Head of Content at The Box and creative director of Screenz. Daniel was selected as one of the Globe's "40 under 40."

Harold "Hal" Wolf III is the President and CEO of Healthcare Information and Management Systems Society

(HIMSS). Wolf is respected internationally as a healthcare and informatics executive with areas of expertise in mhealth, product development, integrated care models, and large-scale innovation implementation. Earlier in his entertainment industry experience, Mr. Wolf served as VP of Content with Time-Warner's Full Service Network.

Tania Yuki is Founder and CEO of Shareablee, the leading provider of social media audience intelligence. Tania is also on the World Economic Forum's Futures Council, and founded Wimlink in 2008, promoting entrepreneurship and leadership for women. Tania has been honored with a Great Mind Award from the Advertising Research Foundation and named in Ad Age's 40 under 40, Ad Age's Media Mavens and featured in *Fast Company* and *Forbes* as one of 12 women driving digital.

FOREWORD

Traditional industries such as music, news, television, advertising, health information, retail, and Human Resources have experienced massive fast-paced disruption over a relatively short period of time, due to the adoption of digital technologies. Dominant players were displaced and often marginalized by innovative, entrepreneurial competitors. The stakes are enormous. Just as the Industrial Revolution created distinct Winners and Losers, individuals, companies, industries, and even countries in the digital era will either thrive or fall hopelessly behind.

This book aims to shed light on the extent and variety of digital adoption. It is designed to prepare the reader for an era of relentless disruption by providing learnings from various case studies. The chapters may examine diverse sectors but they share a common theme; the way forward is twofold-relentless innovation and entrepreneurship. All of the cases are examined through the prism of those two themes. Innovation and entrepreneurship require a fundamental culture change. This is even more daunting when the broader industry is undergoing a digital transformation. This book introduces case studies, best practices, and learnings from organizations and ventures that embraced digital transformation through entrepreneurship and innovation. The future will be digital. This book is meant to help the winners prepare for that future.

The book is divided into two parts:

Part I offers in-depth perspectives from academic thought-leaders on changes in the digital domain. In the first chapter, "Media Innovation Meets the Marketplace," John Carey examines the marketplace context for media innovations. This includes factors that have been well researched and about which much is known, for example, pricing and early adopters, as well as marketplace elements and patterns that are not so thoroughly understood but are nonetheless very important in understanding the process of adoption, that is, the role of serendipity. It also reviews the advantages and disadvantages of large and small companies creating media innovations as are the respective roles of content creation and distribution.

The second chapter "From Interactive Television to Digital Health: Insights for Industries in Transformation" provides a comparative analysis between the adoption of interactive television with digital transformation in the health sector. This includes learning from adaptive business models and consumer behavior. There is a deep-dive into the emerging field of "Internet Psychology," attempting to interpret online consumer activity and predict offline behavior. The digital marketplace driving media innovation is a key theme of discussion, including pricing, early adopters, competition, and serendipity.

In Chapter 3, "How Music Technology Will Impact Personal Creative Expression," the authors explore issues relating to the design of new digital technologies that could enable even non-musicians to create music they find meaningful and through which they can express their unique musical personality. The chapter proposes components for a common framework that will enable the design of a new generation of tools that can explore many different approaches for expanding the bounds of personal creative expression.

In Chapter 4, "Back to the Future: User Research as a Critical Tool for Novel Design," Shuli Gilutz introduces user experience (UX) principles, their value added for innovation, and the best practices for achieving them. She does this by incorporating children-centric design examples in her discussion. She provides best practices to achieve value and ROI of UX for entrepreneurs.

In the last chapter in this section, "The Psychology of Customer Experience," Liraz Margalit explains online consumer behavior from a psychological perspective. The chapter integrates psychological findings and online behavior and explores how customers' emotions influence their experience on a website. It explains how the customers' thought processes, emotions, and psychology influence their purchase intention and provide insights on how online retailers should respond to increase sales and conversion.

The second part of the book introduces four technology startups disrupting their industries and changing the world through digital innovation:

"The Perspective" and "Perpetix" represent a new approach for the news industry. "The Perspective" addresses the polarization online as consumers' transition from objective 'News' into editorialized and curated 'Information.' It has defines its mission as opening minds by displaying two sides of current events. This is done by translating psychological insights into de-facto design choices and editorial guidelines.

"Perpetix" offers an innovative business model in which news organizations can flourish in a challenging commercial environment. As news organization is autarchic entities, they produce most of their content internally. Perpetix argues that news organizations need to pool resources by creating a syndication network that will push each member to produce only content that cannot be produced by others or

outsourced to others – while acquiring all the rest. This will lead to bigger revenues from selling content as well as production cost reductions that exceed the increased costs of buying content.

Shareablee, an audience research company, empowered marketers to look beyond 'big numbers' as social media was growing, and adjust their thinking toward a single, digestible source of meaningful measurement. Shareablee believes that social media presented a channel for connecting marketers with customers, as well as an unprecedented research opportunity to consider what people care about, in real time. Innovating through a fast-changing and crowded digital environment for Shareablee means building quickly on partial information, iterating openly and forming strong but flexible opinions about what will benefit marketers most in a fast-pace changing world.

The last chapter of the book focuses on the changing industry of human resources. Talentedly elevates the role of digital in employee development, transcending traditional employee–employer constraints toward professional self-actualization, to reinterpret recruitment in the digital era. The future of work is changing before our eyes, and digital tools like Talentedly will redefine the workplace.

I wish you all an interesting and insightful read.

ACKNOWLEDGMENTS

I would like to thank the authors who contributed their time, knowledge, and insights. This book would not be possible without them. Special thanks to the Emerald team, Charlotte Maiorana and Nick Wolterman for their constant support and assistance.

This page intentionally left blank

PART 1

INDUSTRY TRANSFORMATION

This page intentionally left blank

CHAPTER 1

MEDIA INNOVATION MEETS THE MARKETPLACE

John Carey

1.1. THE MARKETPLACE CONTEXT: WHAT WE KNOW

We are in a period of rapid technological change and media innovation. The first two decades of the twenty-first century have provided as many media innovations as were implemented in most of the twentieth century. Treatments of these new media innovations generally emphasize technological breakthroughs, highly creative entrepreneurs and bold positioning of media products and services. However, while these are necessary, they are not sufficient. It is not as simple as innovate and people or businesses will adopt the new media technology or service. The marketplace context in which media innovations must win acceptance is multilevel and complex.

The patterns at work in the marketplace for media innovations include pricing, characteristics of early and later adopters, the roles of traditional advertising and social media, critical mass, replacement cycles, how the existing technologies decline as they are replaced by newer ones, and the chances of failure. These patterns have been thoroughly

researched (Carey & Elton, 2010; Gladwell, 2015; Katz, 2006; and Rogers, 2003).

Generally, new media technologies are introduced at a high price, which declines over time. This has been true for personal computers, HDTVs, Smart TVs, and 4K TVs among many others products. One exception has been Apple's iPhone which has been kept at a high price for its premier models. The price for new media services has generally declined over time when there is no content or if the content is created by the users (e.g., phone calls); it has not declined when the service provider has to pay for the content, as in the case of cable or satellite television. When prices for the new technology are high, the group introducing it must find early adopters who are able and willing to pay for it, in order for the price to come down and attract a larger group of subsequent adopters.

In the twentieth century, early adopters were often businesses or middle-aged males with a lot of disposable income. In the twenty-first century, early adopters as a group are generally younger and include many females as well as males. Some have a lot of disposable income but many are willing to pay a higher percentage of (limited) disposable income because media technology is so core to their lives. What if no group or only a small group of users is willing to pay a high price? In these cases, the companies introducing the technology may have to consider subsidizing the price of early units. This was the case with the first generation of Sony PlayStation 4 and Microsoft Xbox. They lost revenue on every unit sold in the first year of introduction. This in turn affects the sales strategies, reducing sales goals to just enough units to declare a victory while realizing economies of scale in manufacturing, as well as efficiencies in chip design to bring down the price for a second and third wave of the units.

A widely accepted principle, based upon twentieth-century research, was that advertising and marketing were the key

drivers of adoption when a media technology is first introduced; word of mouth becomes important later when many people have the technology or service. For example, one thousand people who owned and talked about a new media technology could not reach many other people but one million people talking about it could influence many others. Things changed in the twenty-first century with the emergence and then enormous reach of social media. This digital form of word of mouth empowered relatively moderate numbers of early adopters to reach a very large number of audiences and potentially influence them to adopt a new technology. In this context, social media can take on a role equal to or greater than marketing and advertising early in the introduction of a media innovation. Of course, social media can also have the opposite effect. A relatively moderate number of social media users can turn people away from the product or service through critical comments and reviews.

Social media also affects how a media innovation can reach *critical mass*, a term coined by Rogers (2003). Critical mass is a point in the adoption of a new media technology or service where adoption becomes self-sustaining and additional promotion becomes unnecessary. Positive social media reviews can help a media innovation become self-sustaining sooner than in the past with word of mouth. With the large number of media innovations that have been introduced, it would seem that there would be a limit to the number that can reach critical mass. However, this has not been the case. The millennial generation as a whole appears to have a greater appetite for new technology than the previous generations and is comfortable with it, leading them to adopt a greater amount of it. As a result, more technologies are reaching critical mass. At the same time, an emerging technology or service can be rejected more quickly. In twentieth-century US, some technologies reached critical mass quickly. For

example, black-and-white TV and the DVD player both reached a critical mass of 50 percent of households in less than 10 years, but the telephone required 70 years to reach that level of penetration and cable TV required 39 years (Carey & Elton, 2010). In the twenty-first century, many media innovations have reached critical mass quickly, for example, broadband, smartphones, tablets, apps, and social media. Others faded more quickly than they might have in the past, for example, Google Glass, 3-D TV, ringtones, Pokeymon Go, and many others that are not so well known. For example, apps such as Peach, Meerkat, Ello, and Secret had significant followers but have faded into obscurity.

Replacement cycles are a mundane but very important part of adoption in the media marketplace. Here, people get a new media innovation not because they heard about and wanted this new product and its features. Rather, when the existing model of the product that they owned was broken or out of date, they needed to replace it. In replacing it, the model they purchase comes with new features. Television sets provide a useful example. Virtually all TVs now for sale are smart, 4K models. By replacing an old HDTV, a consumer will acquire one with smart, 4K features. The average replacement cycle for a technology then affects how quickly innovative new features are likely to be acquired by most owners of the technology. In the case of TV sets, the average replacement time is eight years; in the case of smartphones, the average replacement time is two years (Carey & Elton, 2010). As a result, smartphones can innovate faster than TVs if the motivation for acquiring the new model is simply to replace an old, worn-out model.

Studies of media innovations generally put an emphasis on new technologies and services along with their growth rates. However, it is inevitable that declines in sales and usage of some existing media technologies and services will

accompany the growth of new ones. This process has been in place for a long time. In the twentieth century, LPs replaced 45-rpm records over time; personal computers and word-processing software replaced typewriters. In the twenty-first century, just as the number and scope of media innovations has accelerated, so have declines accelerated. The list is long, including telephone landlines, printed newspapers, DVD players, analog TVs, snail mail and many more.

In the face of declines, what is an existing media company or organization to do? One option is to transition from the old to the new, eventually dropping the old. Another option is to launch the new media service while retaining the old (even with declining revenue) as most newspapers and broadcast networks have done. However, the economic model may change. Jeff Zucker, then president of NBC, famously said that the network was exchanging analog dollars for digital pennies (he later changed it to digital dimes), indicating that the new revenue for digital advertising was much less than the loss of ad revenue from the existing broadcast and cable networks. Early in the transition, the preexisting services were more lucrative than the new. This changed over time. Digital ad revenue now equals or exceeds traditional ad revenue across a range of media.

Another decision is whether to change the formats and services of older media to more closely mimic the formats and services of the new, innovative media. The evening broadcast network news programs in the US provide an example. The traditional broadcast networks (ABC, CBS, and NBC) have all created digital news services, but the format of their evening network news programs is largely the same as 30 years ago. They are still profitable but have been losing audience over time. They have retained older viewers (the average age for an evening network news viewer is in the 60s), but younger viewers get their news in other ways. It appears that the

networks have decided to retain the current format until their viewers literally die off, at which point they may just shut the lights off on evening network news. This is not necessarily a bad decision. If they changed the formats radically, trying to be appealing to younger viewers, would they succeed or might they still not acquire a younger audience (that has radically different news consumption habits) and lose the older audience that likes the current format?

Failure in the marketplace is not just a possibility for media innovations but a probability. Most new businesses, including media innovations, fail. There are many examples from the past and more recent experiences. Among the well-known failures from the past were the Highway Hi-Fi, a phonograph built into cars (it skipped when the car hit a bump); Smell-O-Vision, a system that put scents in movie theaters to accompany the storyline on the movie screen (audiences were turned off by the smells); Betamax VCR (it failed in competition with the VHS VCR which had much better marketing); the Laser Videodisc; and Virtual Reality (in the 1990s). More recent failures include Second Life, 3-D TV, Google Glass, Amazon Fire Phone, and the Pebble Smart Watch.

Products do not necessarily fail because they lack innovation. The DeLorean car (made famous in the *Back To The Future* movie series) was highly innovative but fewer than 10,000 cars were sold before the company went bankrupt. Common reasons for failure include a flaw in the technology that cannot be fixed in time, media that are too complicated for the average person to figure out, a lack of content (when a lot of content is required to make the product useful and enjoyable), little demand for what it does (and marketing cannot create demand), and few early adopters who are willing to pay a high price.

A.G. Lafley, the former CEO of Procter and Gamble, has argued that "We learn much more from failure than we do