Entrepreneurship, Innovation, and Technology

The combination of entrepreneurship, innovation, and technology has become the source of disruptive business models that transform industries and markets. The integrative understanding of these three drivers of today’s economy is fundamental to business.

*Entrepreneurship, Innovation, and Technology* aims to connect core models and tools that are already created by well-known authors and scholars in order to deliver a unique guide for building successful business models through the adoption of new technologies and the use of effective innovation methods. The book goes through the entrepreneurial lifecycle, describing and applying core innovation models and tools such as the business model canvas, lean startup, design thinking, customer development, and open innovation, while taking into consideration disruptive technologies such as mobile internet, cloud computing, internet of things, and blockchain. Finally, the book describes and analyzes how successful cases have been applying those models and technologies. With the mix of an academic and practitioner team, this book aims to go against the grain by its positioning of entrepreneurship in the modern technology economy.

This book will prove to be a vital text for any student, specialist, or practitioner looking to succeed in the field.

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1 Stages of the Entrepreneurial Lifecycle

Chapter at a Glance

Main Topics:

- The entrepreneurial lifecycle.
- Identification and assessment of business opportunities.
- Ideation and testing.
- Generation of business models.
- Effectuation and the acquisition of resources.
- Management and execution of an entrepreneurial project.

Case Study N°1:

- The McDonald’s Story of “The Founder”.

Case Study N°2:

- Data-driven Innovation: The Case of LUKO.

Learning Outcomes

After completing this chapter, the reader should be able to:

- Identify the stages of the entrepreneurial lifecycle.
- Find, assess, and select business opportunities.
- Conceptualize an idea and test its assumptions through the customer validation process.
• Describe the components of a business model.
• Identify and acquire resources through the principle of effectuation.
• Identify critical factors for managing and executing an entrepreneurial project.

Management Issues

The issues this chapter raises for entrepreneurs and managers include:

• How do we successfully identify and assess business opportunities?
• How do we test and validate an idea?
• How do we fully describe a business model?
• How do we acquire resources under a context of financial restrictions?
• What are the critical recommendations for the management of an entrepreneurial project?

Links to Other Chapters and Resources

The main related chapters are:

• Chapter 2, which examines business model innovation approaches and the application of technology into the business model innovation.
• Chapter 3, which describes methods and tools to support the ideation and testing processes.
• Chapter 4, which introduces the entrepreneurial skills required to manage the stages of the lifecycle.

The main related resources are:

• The market opportunities in seven fields by Fraunhofer Institute.
• A startup is not a smaller version of a large company by Steve Blank.
• Effectual entrepreneurship by Stuart Read and his colleagues.
• The Lean Startup by Eric Ries.
• Business model generation by Alexander Osterwalder.
• Entrepreneurship and Innovation: Global Insights from 24 Leaders by Rothman Institute of Entrepreneurship.
1.1 Introduction

In this chapter, we depict entrepreneurial action as consisting of a number of stages that, together, constitute a lifecycle. Specifically, the chapter identifies and describes the stages in that lifecycle: business opportunities, ideation and testing, business model generation, resource acquisition, management, and execution.

1.1.1 Business Opportunities

Entrepreneurs transform industries and markets. Through this, they create or allocate value for customers and society more generally and at large. Some entrepreneurs focus on solving people's needs, while others create new opportunities from unseen possibilities. From observation it can be concluded, quite simply, that opportunities can be found or they can be made. These different kinds of entrepreneurial action, among people who would be finders or makers, characterize this study of entrepreneurship. The following pages provide examples and analyzes of both types of entrepreneurs.

1.1.2 Ideation and Testing: Ideas, Products, and Customers

The fundamental activity of an entrepreneur is to turn ideas into economic exchange, to measure customer response, and to learn from this loop. Steve Blank’s model of customer development and customer validation is a helpful and proven approach that allows entrepreneurs to test their hypotheses quickly and effectively. The concepts of “pivot” (major correction) and “minimum viable product” are fundamental facilitators of this kind of learning cycle.

1.1.3 Business Model Generation

Startups need to search for repeatable and scalable business models. In doing so, entrepreneurs can map their business hypotheses through the Business Model Canvas, which comprises nine building blocks: 1) customer segments, 2) value propositions, 3) channels, 4) customer relationships, 5) revenue streams, 6) key resources, 7) key activities, 8) key partners, 9) cost structures.

1.1.4 Resource Acquisition

Once entrepreneurs have defined their hypothesis and are ready for the execution of the journey, they face one of the most critical challenges: the acquisition of the resources needed for the startup, and navigation of
the early stages of this journey. Entrepreneurs need to plan these phases in a way that is aligned with their funding. Failure to complete this process is common. Problems with funding are widely shared as explanations of why many would-be entrepreneurs have not started to develop the venture they have already planned.

Common as this situation is, the history of entrepreneurship also features examples where entrepreneurs overcame difficult issues with funding, perhaps by starting to work with whatever they have and then allowing their goals to emerge over time (i.e., effectuation).

1.1.5 Management and Execution

Once an entrepreneur finds a repeatable and scalable business model, they go on to the execution phase: customer creation and company building. This execution phase is reasonably self-explanatory, and comprises creating end-user demand and building the organization to meet that demand. This phase involves the transition from a startup to a scalable business.

The following sections present a detailed explanation of each of these stages and offer a set of examples and complementary resources such as links to articles, videos, and podcasts.

1.2 Business Opportunities

It seems that the search for the attractive opportunity is somehow in the blood of an entrepreneur. In contemporary culture, some entrepreneurs are vaunted or promoted as especially significant, or even heroic, in their ability to detect and deliver a response to an opportunity. Consider, for example, the press that accompanies Elon Musk (PayPal, Tesla, SpaceX) as the most marked example, though the list is easily extended. Steve Jobs (Apple), Zhang Yiming (ByteDance), Jack Ma (Alibaba), Arianna Huffington (The Huffington Post), Richard Branson (Virgin), Jeff Bezos (Amazon), Larry Page and Sergey Brin (Alphabet), Julian Richer (Richer Sounds), and Mark Zuckerberg (Meta) are all examples of admired entrepreneurs who have been prominent in global media.

Overall, famous or not, the entrepreneur has become prominent in culture, with the common assessment that such individuals might be considered self-made, imaginative, and determined seekers of business opportunity and value.

A recurrent question that follows is how successful entrepreneurs find and select an opportunity. Researchers frequently interpret this by asking whether such opportunities are found or made. Stuart Read and his colleagues, in the book *Effectual Entrepreneurship*, contrast these two alternative views. In the “found” view, entrepreneurs attempt to
capture a new, underserved, or latent market. Within the “made” view, entrepreneurs create or transform, generating new opportunities from innate possibilities.

A practical enunciation of the “found” view is the Fraunhofer mode of approaching applied research, which states, “We seek and find solutions—innovative products, technologies and processes which make our lives healthier, safer and more worthwhile.” From this perspective, Fraunhofer focuses on people’s needs and then searches, selects, and embarks on new innovation projects. Fraunhofer has identified market opportunities in seven fields: bioeconomy, digital healthcare, AI, next generation computing, quantum technologies, resource efficiency, climate technologies, and hydrogen technologies.

The story of John Crowley is a very special example of an entrepreneur’s involvement in the solution of people’s needs. Crowley’s story starts at home when his children were diagnosed with Pompe disease, a rare and fatal neuromuscular disorder. From this point, Crowley embarked on an entrepreneurial venture to find a treatment that would save their lives. The touching film, Extraordinary Measures was inspired by this true story. He recalls, “As a company, the first thing we did was sit in a room and talk about where we wanted to be in five and ten years. The answer was easy for me. I wanted to find a cure for Pompe disease, and then come up with technologies to treat a range of human genetic disorders.”

The main focus of business books and articles is on entrepreneurs who create a profitable business and then acquire personal riches to go with it. There are, of course, a great many others for whom profit is at best a by-product, and who seek mainly to understand people’s needs so that they can generate a powerful, socially beneficial outcome. As explained by Peter Brinckerhoff, “Social entrepreneurs are people who take risk on behalf of the people their organization serves.”

Thus, the term “social entrepreneur” refers to someone who uses the same techniques as the entrepreneur of a profit-oriented business, but who does so in order to create and manage a not-for-profit, socially ameliorative businesses. Such social businesses are an increasingly important topic of study, as there is growing awareness of environmental and social problems associated with our dominant capitalist model.

Lilian Rodriguez López is a successful example of this kind of social entrepreneur. She has been involved in the development and leadership of the Hispanic Federation for more than 20 years. The Hispanic Federation serves more than 90 Latino health and human service agencies in New York, New Jersey, Connecticut, and Pennsylvania. She defines a social venture this way: “your contributions are your revenues, your funders are your clients, and your business is health and human
services. But, we manage businesses with a heart. Our imperative is the social good of the communities and the people we serve.”

Rodriguez López distills four key lessons for running a non-profit business. First, take full advantage of all experiences. Even negative experiences make the team stronger. Second, “if it was easy, everybody would be doing it”. Succeeding implies high levels of discipline, perseverance, and dedication. Third, determine your values and stand for them. Many things will affect the job—public policy, legislation, government budgets, etc.—so it will require the entrepreneur to stand up for what they believe is fair. Fourth, Rodriguez López reminds us that we must give back to society in any form that we can.6

Returning to the “made” view of entrepreneurship, the market cannot be defined in a simplistic way because opportunities emerge over time, through an interactive process of learning among customers, partners, and the entrepreneur. Perhaps, Steve Jobs is the most fabled example of this approach. Once, he argued, “A lot of times, people don’t know what they want until you show it to them.” Jobs was able to create new products, and even product categories (e.g., Mac, iPod, iPhone, and iPad), by developing creative and transformative practices based on his individual motivations and on interactions with various stakeholders (e.g., colleagues, partners, customers, employees).

A key iteration occurs between Apple’s App store and the ecosystem of third-party apps. The first generation of iPhone was launched for the US market in June 2007. The App Store opened in July 2008. It is widely known that Jobs resisted opening the iPhone to third-party developers, because he preferred to hold firm control over his products. It seems that board members and senior managers, including current chairman Art Levinson, convinced him that inviting third-party developers was an opportunity to create new products and services to be distributed through the Apple platform.8

When Jobs changed his mind and agreed with his colleagues, he decided to retain control via an app approval process, but to allow the third-party developers to create new services for customers. It was not the first “store” concept to be developed for a phone, but it became a very successful one, which continues to maintain Apple’s rivalry with the still-bigger Android system.

1.2.1 Is This a Good Opportunity?

The most obvious question an entrepreneur will ask is whether the identified opportunity will or not. According to Dun & Bradstreet and INC. magazine, 33% of all new businesses fail within the first six months of operation, 50% fail within their first two years, and 75% fail within the first three years. It follows that the most important task of an
entrepreneur in their first miles of a journey is the assessment of the opportunity, in order to test the idea before spending more time and money (or other resources) on it.

According to John Mullins, there are three crucial elements to assess in an entrepreneurial journey: markets, industries, and the key people who make up the team. These three crucial elements manifest as three basic questions: Is the market attractive? Is the Industry attractive? Can the team deliver? Cutting to the core, markets consist of buyers, and industries consist of sellers—can we match them up? Does the firm have the right people to match them up?

1.2.2 Is the Market Attractive?

Zappos.com is an online shoe and clothing shop based in Las Vegas, Nevada. The company was founded by Nick Swinmurn in 1999. A few months later, entrepreneurs Tony Hsieh and Alfred Lin decided to invest $2 million through their investment firm, Venture Frogs. After minimal gross sales in 1999, Zappos brought in $1.6 million in revenue in 2000. The company reached $1 billion in annual sales in less than ten years. It was acquired by Amazon in 2009, in a deal worth $1.2 billion.

Zappos is a very good example of a great market opportunity identified by its founders. At the time of Zappos.com’s founding, the footwear market in the USA was worth $40 billion, and 5% of that market was using mail order. Hsieh and Lin thought that if people bought two-billion-dollars’ worth of shoes through mail order catalogs, the internet would be a substantially larger market. They invested in this opportunity, and Hsieh got involved as co-CEO.

In general terms, assessment of the market comprises twin levels of analysis: the macro-level and the micro-level. The macro-level analysis attempts to measure the size of the market. Measures can include, for example, the number of customers or the aggregate money spent by customers. As part of these measures, the entrepreneur also analyzes the macro-environmental trends associated with the opportunity (e.g., the demographic, technological, regulatory, and sociocultural issues of the environment).

With respect to the micro-level analysis, entrepreneurs should identify and evaluate a smaller segment of customers within the overall market. For John Mullins, this means asking four key questions:

- Is there a target market segment where the startup might better resolve the its pain at a price it is willing to pay?
- Are these benefits different from those of other competitors?
- How large is this segment?