Digital Innovation and Entrepreneurship

The digital economy encompasses more than half the world, and in today’s business market, those with a technology background have an advantage. This textbook provides students who already have digital expertise with a solid foundation in business and entrepreneurship in order to launch and run a business.

Using a logical, objective-based structure, the book guides students to a comprehensive and practical understanding of innovation and entrepreneurship. Chapters progress through the steps in creating a successful digital business: framing the business promotion and sales, delivery and operations, value capture, growth and scalability, intellectual property and protection, and leadership and structure.

Features include:

- Learning objectives, introductions, conclusions, tables and figures, highlighted key terms, and analysis and design exercises in each chapter.
- A wide range of real-world examples.
- A rolling case study of a hypothetical digital business that models the concepts covered in each chapter.
- Appendices of business terms, including those relating to product licensing, customer service agreements and customer delivery contracts, with key terms explained throughout.
- Supplementary online resources, including: a test bank, lecture slides and a teaching guide for instructors; and a business design template for student use.

Dick Whittington taught Business Innovation at the University of York and is an entrepreneur, business mentor and investor with over twenty-five years' experience. Co-founding a successful UK technology business recognised through three Queen’s Awards, he was elected Fellow of the Royal Academy of Engineering in 2012. He is also an active mentor and angel investor within several London and regional technology accelerator programmes.
Digital Innovation and Entrepreneurship

Dr Dick Whittington FREng
For Sharon and all those who travel with, through and ahead of us, including those born in the midst of things
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8. Leadership and Structure

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# 9. Key Themes and Summary Points

9. Key Themes and Summary Points

Introducing the Key Themes
Set and Agree the Objectives and Outcomes
Deliver Something Customers Need
Create Value from the Ecosystem
Design the Business to Perform
Plan for Growth and Scalability
Build a Culture with the Right Mix of Talent
Distribute Equity to Motivate and Reward Investment
Control Finances and Know the Runway
Understand and Manage the Risk Envelope
Think Like an Investor in All Matters

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There are countless books on business development, marketing and entrepreneurship, but many follow either a rather singular experience or a theoretical/academic pathway. Dr Dick Whittington has produced a deep and broad treatise on the full complexity, challenge and opportunity of entrepreneurial business development. He focuses primarily on the digital sector which he knows best, but most of the content of this book is more broadly relevant to many businesses in the plethora of sectors. Dick is unusual in having both an eminent academic career and an excellent track record as a successful serial entrepreneur. He is extremely well connected to international networks in both business and academia and as a fellow of the Royal Academy of Engineering has played an important role in the creation of the acclaimed Enterprise Hub. This hub has helped, guided and supported over fifty businesses from start-up, raising substantial investment and creating many new highly skilled jobs. The hub is also supporting over fifty established medium-sized businesses, assisting in their strategy development for growth and scale-up.

Dick’s rich combination of experience over many years has given him deep insights into the complete life cycle of technology innovation, business creation, development, scale-up and maturity, which is rare. This business development process has great complexity and is certainly not linear. He addresses this complexity in a very clear and succinct step-wise manner with sharp focus on iterative review. The key issues of leadership, risk tolerance and management, core competence, value proposition, people, customers, partners, and asset and intellectual property protection are all treated in a systematic and very clear manner.

Within the UK over the last two decades there has been a significant amount of attention given to start-up businesses and venture funding, which has led to an emphasis on gaining investment and moving to exit at the expense of longer-term sustainable business growth, development and scale-up, and hence the UK has often missed out on the consequential economic benefit of retaining truly scalable and rapidly growing mid-sized business.

This book offers a rounded and complete recipe for full business development and scale-up which will help entrepreneurs consider a broader range of options than currently appears to be the case. Perhaps more will now choose the
'accelerated growth elevator' and not simply 'run to the exit'. I have no hesitation in commending this book for any budding entrepreneur, or even an established business leader, to help ensure that maximum potential is realized to fully develop the inherent value of business, assets and teams with genuine wealth creation.

Ian Shott CBE FREng

Founder and Chairman of the Enterprise Hub, Royal Academy of Engineering

Managing Partner of Shott Trinova Ltd
Preface

Motivation

After twenty-five years as an entrepreneur, mentor and investor in digital businesses, teaching business innovation in a UK university provided me with three insights:

One, students studying STEM disciplines readily spark at the opportunities offered by the fast-moving world of digital business, and are keen to apply their inherent analytical skills to business design and business realization.

Two, a significant majority of STEM students graduate with only the most rudimentary and anecdotal appreciation of how digital techniques, technologies and processes apply to business and entrepreneurship, despite a formal education which includes a wealth of relevant digital knowledge and skills.

And three, while there are many excellent books that address innovation and entrepreneurship, there is real need for a student textbook that specifically addresses today's digital economy for those planning to enter the technology sector.

This book bridges the gap between formal STEM education and the business world, and introduces innovation and entrepreneurship as core components of the modern professional's skillset in the digital economy.

It aims to enable and encourage the application of students' inherent digital computing knowledge, imagination and creativity to the activities of business innovation and entrepreneurship.

Focus

Peter Sondergaard, Executive Vice President of Research at Gartner, a leading market analysis company, famously stated that: 'every company is a technology company'. It follows, therefore, that if all businesses are digital, then all digital professionals should have business skills.
The success of global companies such as Amazon, Uber and JustEat has been founded on highly effective digital e-commerce platforms; nevertheless, their business models require and involve large numbers of people handling and processing physical artefacts, thus the modern digital economy entrepreneur needs to know more than how to create digital technology.

In this book, the digital world is assumed to embrace all of those businesses that produce digital products, or for which a digital platform is in some way essential to their fabric, and the approach taken to entrepreneurship embraces the wider range of subjects that need to be understood to succeed in business.

Approach Taken

While there are some aspects of business creation that are universal, such as the need for an identity and a legal structure, there are many aspects that need to be addressed as design decisions and which result in businesses differing in rich and surprising ways.

This book takes a business design-led approach to digital entrepreneurship. There are many decisions in the design and operation of a business that can be treated rationally, and which can make a real difference to its performance and success. This book logically sets out what these decisions are and how a successful digital entrepreneur would go about designing and implementing them for their own business idea.

Alongside this, however, it is important to recognize that those characteristics of a business determined by its design are layered over a matrix of assumptions, values and qualities that reflect the ethos of the founders or leadership, and which are beyond the remit of design: this is what gives a business its unique personality.

The Business Design Framework

The central chapters of the book are structured around a business design framework that has been synthesized from experience for the purposes of this book. It provides a broad logical structure for thinking about business design in a way that separates the diverse set of considerations involved and guides the sequencing of chapters. Presented throughout in diagrammatic form, the
framework clearly and logically directs the student through the principal steps of business design.

Each chapter of the book guides the student through a collection of design decisions that are needed, using a methodical structure with an emphasis on defining and achieving business objectives. Useful techniques and evaluation approaches, such as ecosystem design and customer-journey mapping, are included to help consolidate students' understanding and application of entrepreneurship in the digital economy.

**SportMagenta – a Rolling Case Study**

A hypothetical business idea – SportMagenta – which provides a digital channel between sport clubs and their visitors – is used throughout the book to provide a rolling case study. The story of this venture’s development unfolds with each chapter to illustrate to students the way in which a business can be designed and developed in concert with the business design framework.

Although hypothetical, the business is sufficiently realistic that the required design decisions provide useful examples of the working of the techniques introduced by each chapter, including considerations of ecosystem, routes to market and growth plan.

**Intended Readership**

The book has been written for STEM and business students, including undergraduate, postgraduate and beyond, to bridge the world of their studies with the digital business world.

The book recognizes that some of its readers will have ambitions to start their own businesses, others will intend to join existing start-ups, and yet others will plan to join larger organizations, possibly as part of a research and development function. Whatever their ambition, students need to understand how business works in the digital economy. Without this, a student’s employability will be limited, as will be the contribution that they can offer to a prospective employer.

It can also be (and indeed has been) used to provide a concise and practical introduction to digital innovation and entrepreneurship for those who are studying a more wide-reaching business study programme.
This book gives students a thorough grasp of the fundamentals of business in one volume, without the need for a full-blown business curriculum. My experience of teaching the content and framework contained in this book has demonstrated it to be effective with students of many disciplines and situations, from first-year undergraduates through to research staff and those entering the world of business.

There are no assumed prerequisites, other than a broad appreciation of the digital world. Every topic is introduced, explained and illustrated. Where relevant, references are provided to sources for further research or learning.

### Pedagogical Features

- A rolling case study of a hypothetical business developed incrementally throughout the book to illustrate the main points of each chapter.
- Diagrammatic illustrations and tables throughout to clarify important structures and concepts.
- Real-world examples from larger businesses such as IBM, Amazon and Google, and also from smaller businesses such as Bright Funds, Onlicar and Sorry as a Service are used to illustrate key points.
- Detailed case studies of digital businesses and successful business design, such as the example of Swift Comply in Chapter 3, which illustrates an innovative approach to scaling of promotion.
- A glossary that explains all of the business terms and jargon introduced by the book.
- A business design template to record and consolidate design decisions, introduced and illustrated in principle and provided as a resource for students.
- Learning outcomes at the start of each chapter.
- Analysis questions at the end of each chapter.
- A rolling design activity for students to complete at the end of each chapter.
- An accompanying website at [www.cambridge.org/Whittington] provides additional lecture and assessment materials, plus a downloadable version of the business design template.
- Each chapter addresses a collection of design decisions, structured so as to explain the options available, listing applicable considerations and, in many cases, describing a practical technique that can be applied, with examples.
A comprehensive bibliography for further reading and research, including books, journal articles and business reports.

Appendices providing more detailed coverage of the principal terms applying to licensing agreements, service agreements and delivery contracts.

Chapter Overviews

Chapter 1, About Innovation and Entrepreneurship, addresses innovation from the perspectives of process, ecosystem, types and implications, historical patterns, and the various classes of innovators and their motivations. It addresses the distinctions and interactions between innovation and entrepreneurship, and examines the principal ingredients for success, and the most common reasons for failure.

Chapter 2, Framing the Business, proposes a template for business design and outlines the hypothetical business case exercise to be used throughout the book. It introduces, applies and illustrates seven principal questions that together frame a business venture: the mission, the customer, the problem it solves, the technology offering, how performance will be measured, the key risks and the plan.

Chapter 3, Promotion and Sales, explains and illustrates the analysis of market size, structure and dynamics. It reviews options for creating visibility, branding, presence, influence, and the planning and costing of promotional activities. The management of sales is addressed in respect of methods for customer prioritization, stakeholder management, engagement, negotiation, piloting and the development of customer communities. A final section stresses the need to apply the innovative power of the business to its promotion.

Chapter 4, Delivery and Operations, addresses considerations and techniques for building and managing the supply chain, and for mapping and analysing the customer journey. The planning of development is covered in terms of requirement prioritization and product roadmap, and the need for continuing management and control of development and release is highlighted. Considerations and techniques for developing a channel strategy and routes to market are addressed, and a final section stresses the need to apply the innovative power of the business to the development and delivery of its offerings.
Chapter 5, Value Capture, highlights the need to set a value capture strategy, including objectives and a return-on-investment case. It recognizes the need for care when defining the option to be offered to customers and the importance of understanding the purchasing process. Creation and calibration of a pricing structure is addressed in terms of what, who, when, how, and how much to charge. Value capture should enhance business value, and hence methods for assessing the value of a business are described, including their driving factors. The chapter concludes with a section that stresses the need to apply the innovative power of the business to its value capture.

Chapter 6, Growth and Scalability, highlights distinctions between growth and scalability, start-up and scale-up, and innovation and entrepreneurship. It addresses the need to set a strategy for growth and scalability and illustrates the creation of a growth plan comprising financial projections, the required size and shape of team, and the design of a scalable organization. Funding options are addressed, including organic growth and investment readiness. Sources of investment are explained, as is the creation of a business plan in terms of required content and associated presentation materials.

Chapter 7, Intellectual Property and Protection, is about understanding the principal risks, requirements and means of protection. The protection of IP includes trademarks, design rights, patents and copyright, including open source, which are explained in an international context. The protection of confidential information and trade secrets is addressed, as is the need to protect against risky contracts. Three appendices provide detailed coverage of contractual clauses that can carry risk. Two further risks are addressed: the need to protect against damage and intrusion, physical and cyber; and the need to protect against non-compliance with legal requirements, including data protection and employment legislation.

Chapter 8, Leadership and Structure, subdivides into two parts. The first relates to the leadership and governance requirements of a business, explaining and differentiating the respective requirements, and highlighting the need for a balanced team. Financial planning and control is covered in respect of cash management, setting and balancing of budgets, monitoring of performance, and requirements for company reporting and taxation. The second part relates to structural and legal requirements, including company legal entities, and the contractual structures and agreements relating to people and shareholdings.

Chapter 9, Key Themes and Summary Points, collects and reflects upon ten key themes that emerge across the other chapters. For each theme, a brief narrative summarizes its applicable contexts and picks out the principal points to be noted.
Acknowledgements

I am grateful to a number of people and organizations that have provided useful input and feedback during the development of this text. These include the following:

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- The fantastic teams behind those early-stage businesses that have shared their stories as case exercises, especially Onlicar, Reposit and SwiftComply.
- My students, mentees and business friends for a wonderfully wide tapestry of experiences and learning.
To the Student

Whatever your ambitions, you need to know about business in the digital economy – its language, assumptions, methods, the opportunities it offers, and what it is likely to expect from you in terms of knowledge, imagination and creativity.

Many people learn what they need to know through experience, which is invaluable; however, relying solely on experience takes time, usually involves repeating well-known mistakes and can lead to a patchy and anecdotal understanding. This book is a short-cut to a comprehensive and practical grounding in everything that you need to understand to succeed in the digital economy.

By following the components of the business design framework that is comprehensively examined from Chapter 2 to Chapter 8, you will learn about notions of product, platform and service, customers and ecosystems, markets and their dynamics, promotional and delivery channels, intellectual property and its protection, risk, finance, team-building and motivation, investment and legal requirements – and above all, about what is needed to create, grow and scale something of value.

The practical style of the book develops three threads which will help you gain a comprehensive understanding of business in the digital world:

- A wide range of real-world examples, including Apple’s approach to managing its routes to market, IBM’s categories of intrapreneurship, Onlicar’s supply chain management and Reposit’s redesign of the tenancy ecosystem, to illustrate approaches that are being applied effectively by businesses of all sizes.
- A rolling case study of a hypothetical digital business, SportMagenta, to illustrate how design decisions can be addressed in a coherent manner.
- Exercises at the end of each chapter, to provide an opportunity for you to apply your talents to business analysis and design.

The business world is rich in jargon and terminology, much of which will be alien to those without experience, and which needs to be understood and applied intelligently. The book introduces relevant terms with explanation where they arise, and provides a comprehensive glossary of more than 300 relevant terms.