

3RD edition



# Innovation and Entrepreneurship

John Bessant and Joe Tidd

WILEY



### **Review for the third edition**

“This book is a reference for those interested in innovation management and entrepreneurship. Standing on the shoulders of the second edition, Bessant and Tidd have incorporated current debates such as sustainability-led innovation, entrepreneurial creativity and the growing importance of ICTs in shaping the innovation model, e.g. crowd sourcing, crowd funding and innovation communities. What makes this edition even more outstanding is the way theories are combined with case studies, media links and other online learning and revision material.”

**Dolores Añon Higon, Associate Professor, Faculty of Economics,  
Universitat de València, Spain**

### **Reviews for the second edition**

“Bessant and Tidd’s *Innovation and Entrepreneurship* 2nd Edition is an ideal undergraduate textbook. It successfully synthesises relevant frameworks from previously segmented fields of inquiry and presents them within a practical and logical process model which is packed with illustrative material and useful aids to learning.”

**John Storey, Professor of Management,  
The Open University Business School**

“This is a comprehensive and authoritative text prepared by an authoritative team – professors John Bessant and Joe Tidd. They both have an excellent grounding and credible presence in innovation studies and have been at the forefront of research in the field for many years.

The text is an extremely timely melding of insights about innovation and about entrepreneurship. Around the world today it is being increasingly recognised that innovation – the commercial exploitation of new ideas – is a crucial driver for improving economic and social wellbeing across both public and private sectors. At the same time, recognition is also growing that effective and successful innovation requires the ingenious involvement of individuals with the energy and commitment to build appropriate organisational arrangements to deliver the potential of innovation. This text explains and illustrates in a very accessible manner just how this can be done. It will prove to be an extremely effective anchor text for any undergraduate courses in the area, and indeed is worthwhile reading for researchers and practitioners who would like authoritative confirmation that what they are doing makes sense.”

**Professor James Fleck, Dean of the Open University Business  
School and Professor of Innovation Dynamics**

*“Innovation and Entrepreneurship* is positioned well for the undergraduate level and also draws in new key areas such as innovation systems and socio-technical aspects of innovation. Students can be shown that innovation is not just about technology development. The provision of integrated modern examples for illustrative and case study use is also helpful.”

**Dr Paul Harborne, Senior Research Fellow,  
Cass Business School, UK**

“An excellent primer in entrepreneurial innovation. From principles to application, this book aggregates best practices for practical application; building a solid foundation from their own vast expertise, Bessant and Tidd educate the reader with action oriented, practical approaches to bringing innovation and entrepreneurship together in the real world.”

**Charlie Nagel Schmidt, Associate Professor,  
Business and Graduate Faculty, Champlain College, USA**

“This book is very well balanced, with chapters on both manufacturing and service sectors. The chapters on sustainability and economic development are timely. Most books on innovation are excessively concerned with the ‘how’ of innovation. There is always a need to provoke thought on the ‘why?’ – what economic, social and environmental goals does innovation serve?”

**Ken Green, Professor of Environmental Innovation Management,  
Manchester Business School, UK**

# **Innovation and Entrepreneurship**



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**WILEY**

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# Preface to third edition

Organizations which innovate are much more likely to create value, both private and social.<sup>1</sup> However, few new ventures are successful, and very few manage to grow and prosper.<sup>2</sup>

This book has been developed specifically for students of Business and Management Studies, and for Science and Engineering students studying courses on innovation and/or entrepreneurship. It is designed to complement our best-selling text *Managing Innovation: Integrating Technological, Market and Organizational Change* (5th edn, John Wiley & Sons Ltd, 2013), which is focused more on the needs of specialist postgraduate and post-experience audiences.

In this third edition, we were inspired by the pioneering scholars of entrepreneurship and innovation, such as Joseph Schumpeter and Peter Drucker, to attempt to re-integrate these two fields. For too long the two subjects have diverged into narrow disciplines, each suffering as a result: entrepreneurship has become preoccupied with small business creation and innovation dominated by new product development.<sup>3</sup> In this text, we aim to reunite the study and practice of entrepreneurship and innovation.

We believe that this text is unique in two significant respects. First, how it treats and applies the key theories and research on innovation and entrepreneurship. Second, the pedagogy and approach to learning. In this text we review and synthesize the theory and research, where relevant, but put far greater emphasis on the practice of innovation and entrepreneurship applied in a much broader context, including the corporate and public services, emerging technologies and economies, and for sustainability and development. Research has shifted from a narrow focus on individuals and inventions to a broader process perspective.<sup>4</sup> Therefore, in this third edition, we continue to adopt an explicit process model to help organize the material:

- Entrepreneurial Goals and Context
- Recognizing the Opportunity
- Finding the Resources
- Developing the Venture
- Creating Value.

In the first section, Entrepreneurial Goals and Context, we review the key theories and recent research relevant to understanding the dynamics and practice of innovation and entrepreneurship. In the first chapter, we begin with mapping out different definitions and types

of innovation, and identify the relationships between innovation, entrepreneurship and the performance of organizations in the private and public sectors. We develop a process for innovation and entrepreneurship that consists of four phases: Recognizing the Opportunity; Finding the Resources; Developing the Venture and Creating Value. In Chapter 2 we explore the context and goals of social entrepreneurship and innovation, including public organizations and other third-sector bodies such as non-governmental organizations (NGOs), which includes charities and the voluntary sectors. In many advanced economies the service sector, broadly defined, accounts for 60–75% of employment, and more than half of this is in public- and third-sector services. Chapter 3 examines the contributions of innovation and entrepreneurship in emerging and developing economies, and for sustainability in the more advanced nations.

The rest of the text is organized by the process model. Part II, Recognizing the Opportunity, includes chapters on the sources of and searching for opportunities, with a focus on the respective roles of individuals, groups and organizations in innovation and entrepreneurship, and identifies the key characteristics of creative people, and the factors which contribute to an innovative organization, including trust, challenge, support, conflict and debate, risk-taking and freedom. In Part III, Finding the Resources, we discuss how to develop a business plan and how to use this to identify and manage uncertainty, and the critical contributions of personal and organizational networks. Part IV, Developing the Venture, focuses on how to develop new, innovative products, services and businesses, including corporate entrepreneurship and ventures. Finally, in Part V, Creating Value, we identify paths to create and capture value, in the broadest sense. This includes creating and sharing knowledge and intellectual property, novel business models and factors which influence the success and growth of new ventures. The final chapter reviews the steps and resources necessary to make innovation and entrepreneurship happen, and provides an action plan for translating ideas into practice.

The text is also fully integrated with our interactive Web resources, available at [www.innovation-portal.info](http://www.innovation-portal.info), which features:

- additional, full-length case studies
- tools to support innovation and entrepreneurship
- video and audio media
- flash interactive exercises
- self-test bank of questions and answers.

We welcome your feedback and invite you to share your experiences.

John Bessant and Joe Tidd



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## References

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1. Tidd, J. and J. Bessant (2014) *Strategic Innovation Management*, Chichester: John Wiley & Sons Ltd.
2. Coad, A., S.-O. Daunfeldt, W. Hözl *et al.* (2014) High-growth firms: Introduction to the special section, *Industrial and Corporate Change*, 23(1): 91–112.
3. Tidd, J. (2014) Conjoint innovation: Building a bridge between innovation and entrepreneurship, *International Journal of Innovation Management*, 18(1): 1–20.
4. Landström, H., G. Harirchi and F. Åström, F. (2012) Entrepreneurship: Exploring the knowledge base, *Research Policy*, 41(7): 1154–81.

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As always we're really grateful for the help and support of the extended team at Wiley, who have practised what we preach with their seamless cross-functional working, especially Steve Hardman, Georgia King, Deb Egleton, Juliet Booker, Tim Bettsworth, Sarah Booth and Gladys Famoriyo.

# How to Use This Book

## Features in the Book

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### INNOVATION IN ACTION 5.2

#### Sticky Success

It was during a flight in 1967 that Wolfgang Dierichs, a scientist working for the German company Henkel, had a flash of creative insight. The company made a wide range of stationery products and one area in which he worked was in adhesives. As he sat waiting for the plane to take off he noticed the woman next to him applying lipstick. His insight was to see the potential of the lipstick tube as a new way to deliver glue. Put some solid glue in a tube, twist the cap and apply it to any surface.

The company launched the 'Pritt Stick' in 1969, and within two years it was available in 38 countries around the world. Today, around 130 million Pritt Sticks are sold each year in 120 countries and the product has sold over 2.5 billion units since its invention.

**Innovation In Action:**  
Real-life case studies contextualize the topics covered

### ENTREPRENEURSHIP IN ACTION 5.2

#### Snakes on a Bus

The 19th-century chemist Friedrich August Kekulé is credited with having unravelled one of the keys to the development of organic chemistry, the structure of the benzene ring. This arrangement of atoms is central to understanding how to make a range of chemicals, from fertilizers and medicines to explosives, and enabled the rapid acceleration of growth in the field. Having wrestled for a long period with the problem, he eventually had a flash of inspiration on waking from a dream in which he had seen the atoms dance and then, like a snake, begin eating its own tail. This weird dream picture nudged him towards the key insight that the atoms in benzene were arranged in a ring.

He later reported on another dream which he had had while dozing on a London bus in which atoms were dancing in different formations, which gave him further insight into the key components of chemical structure.

**Entrepreneurship In Action:**  
Practical implications and advice through evidence-based examples



**Deeper Dive** explanations of innovation concepts and ideas are available on the Innovation Portal at [www.innovation-portal.info](http://www.innovation-portal.info)

**Deeper Dives**, for more in-depth analysis of specific topics

## Web Resources

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### Innovation Portal

The Innovation Portal at [www.innovation-portal.info](http://www.innovation-portal.info) houses all the online resources for the book. This fully searchable resource contains a wealth of material including a complete compendium of **videos**, **audio clips**, **cases**, **activities** and a fully searchable **innovation toolkit**, and is an essential resource for anyone wishing to deepen their understanding of innovation concepts. Signposts to this material can be found in the relevant book chapters wherever you see the icon boxes as shown below:



**Tools** to help you explore prototyping are available on the Innovation Portal at [www.innovation-portal.info](http://www.innovation-portal.info)



**Activities** to help you try some of these prototyping tools are available on the Innovation Portal at [www.innovation-portal.info](http://www.innovation-portal.info)



**Case Studies** of the NHS RED and Open Door projects, which made use of prototyping, are available on the Innovation Portal at [www.innovation-portal.info](http://www.innovation-portal.info)

**Audio Clips** of a talk by Wikipedia founder Jimmy Wales and of Charles Leadbeater talking about the power of the crowd in innovation are available on the Innovation Portal at [www.innovation-portal.info](http://www.innovation-portal.info)



**Video Clips** using the Honey Bee network in India and Blackstone Entrepreneur Networks as examples of these issues are available on the Innovation Portal at [www.innovation-portal.info](http://www.innovation-portal.info)



## Additional Resources for Instructors

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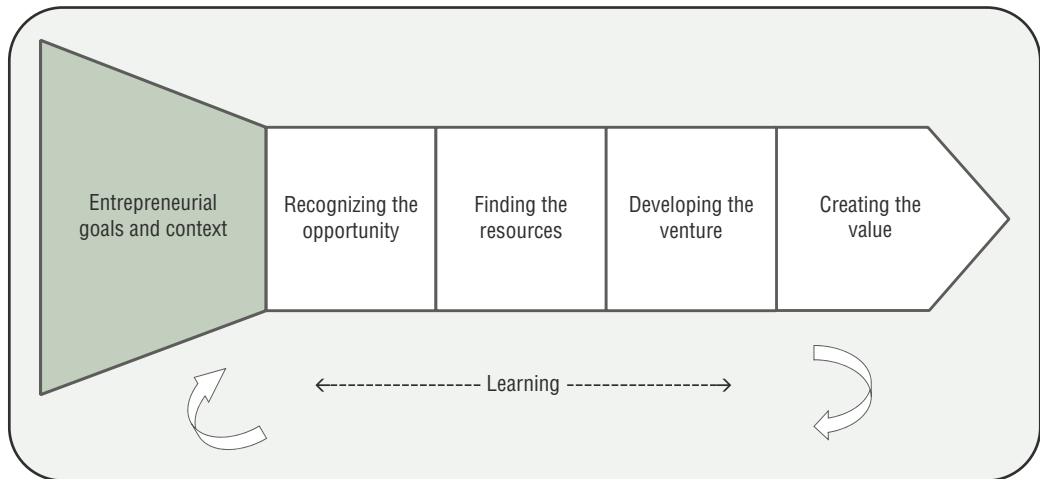
The authors have compiled an extensive range of resources to help lecturers teach their innovation and entrepreneurship courses including a teaching guide and course outline that provides a template for courses, seminars and assessments built around specific themes, together with linked media such as lecture slides, seminar exercises, cases, tools and assessments. There is also a comprehensive test bank and shorter quizzes to help test student understanding. All this material can also be accessed via the Innovation Portal at [www.innovation-portal.info](http://www.innovation-portal.info).

**PART I**

**ENTREPRENEURIAL  
GOALS AND CONTEXT**



The national, regional and sectoral contexts can have a significant influence on the rate and direction of innovation and entrepreneurship through the availability or scarcity of resources, talent, opportunities, infrastructure and support. However, while context influences the rate and direction, it does not determine outcomes. The education, training, experience and aptitude of individuals also have a profound effect on the goals and outcomes of innovation and entrepreneurship.





# Chapter 1

## The Innovation Imperative

### LEARNING OBJECTIVES

By the end of this chapter you will develop an understanding of:

- what ‘innovation’ and ‘entrepreneurship’ mean – and how they are essential for survival and growth
- innovation as a process rather than a single flash of inspiration
- the difficulties in managing what is an uncertain and risky process
- the key themes in thinking about how to manage this process effectively.

### Innovation Matters

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You don’t have to look far before you bump into the innovation imperative. It leaps out at you from a thousand mission statements and strategy documents, each stressing how important **innovation** is to ‘our customers/our shareholders/our business/our future’ and, most often, ‘our survival and growth’. Innovation shouts at you from advertisements for products ranging from hairspray to hospital care. It nestles deep in the heart of our history books, pointing out how far and for how long it has shaped our lives. And it is on the lips of every politician, recognizing that our lifestyles are constantly shaped and reshaped by the process of innovation.

## INNOVATION IN ACTION 1.1

### Everybody's Talking about It

- ‘We have the strongest innovation programme that I can remember in my 30-year career at P&G, and we are investing behind it to drive growth across our business’ – Bob McDonald, Chairman, President and CEO, Procter & Gamble
- ‘We believe in making a difference. Virgin stands for value for money, quality, innovation, fun and a sense of competitive challenge. We deliver a quality service by empowering our employees and we facilitate and monitor customer feedback to continually improve the customer's experience through innovation’ – Virgin Life Care (<http://www.virginlifecare.co.za/aboutus/aboutVirgin.aspx>)
- ‘Adi Dassler had a clear, simple, and unwavering passion for sport. Which is why with the benefit of 50 years of relentless innovation created in his spirit, we continue to stay at the forefront of technology’ – Adidas ([www.adidas.com](http://www.adidas.com))
- ‘Innovation is our lifeblood’ – Siemens ([www.siemens.com](http://www.siemens.com))
- ‘We're measuring GE's top leaders on how imaginative they are. Imaginative leaders are the ones who have the courage to fund new ideas, lead teams to discover better ideas, and lead people to take more educated risks’ – J. Immelt, chairman and CEO, General Electric
- ‘We are always saying to ourselves. We have to innovate. We've got to come up with that breakthrough’ – Bill Gates, former chairman and CEO, Microsoft
- ‘Innovation distinguishes between a leader and a follower’ – Steve Jobs, co-founder and former chairman and CEO, Apple
- ‘John Deere's ability to keep inventing new products that are useful to customers is still the key to the company's growth’ – Robert Lane, CEO, John Deere

This isn't just hype or advertising babble. Innovation does make a huge difference to organizations of all shapes and sizes. The logic is simple: if we don't change what we offer the world (products and services) and how we create and deliver them, we risk being overtaken by others who do. At the limit it's about survival, and history is very clear on this point: survival is not compulsory! Those enterprises which survive do so because they are capable of regular and focused change. (It's worth noting that Bill Gates used to say of Microsoft that it was always only two years away from extinction. Or, as Andy Grove, one of the founders of Intel, pointed out, ‘Only the paranoid survive!’)



## INNOVATION IN ACTION 1.2

### ...and It's a Big Issue

- OECD countries spend \$1500 billion/yr on R&D.
- More than 16 000 firms in the USA currently operate their own industrial research labs, and there are at least 20 firms that have annual R&D budgets in excess of \$1 billion.
- In 2008, 16.8% of all firms' turnover in Germany was earned with newly introduced products; in the research-intensive sector this figure was 38%. During the same year, the German economy was able to save costs of 3.9% per piece by means of process innovations.
- 'Companies that do not invest in innovation put their future at risk. Their business is unlikely to prosper, and they are unlikely to be able to compete if they do not seek innovative solutions to emerging problems' – Australian government website, 2006.
- 'Innovation is the motor of the modern economy, turning ideas and knowledge into products and services' – UK Office of Science and Technology, 2000.
- According to Statistics Canada, the following factors characterize successful small and medium-sized enterprises SMEs:
  - Innovation is consistently found to be the most important characteristic associated with success.
  - Innovative enterprises typically achieve stronger growth or are more successful than those that do not innovate.
  - Enterprises that gain market share and increasing profitability are those that are innovative.

On the plus side innovation is also strongly associated with growth. New business is created by new ideas, by the process of creating competitive advantage in what a firm can offer. Economists have argued for decades over the exact nature of the relationship but they are generally agreed that innovation accounts for a sizeable proportion of economic growth. William Baumol points out that 'virtually all of the economic growth that has occurred since the eighteenth century is ultimately attributable to innovation.'<sup>1</sup>

## INNOVATION IN ACTION 1.3

### Growth Champions and the Return from Innovation

Tim Jones has been studying successful innovating organizations for some time (see <http://growthchampions.org/about-us/>). His most recent work has built on this, looking to try to establish a link between those organizations which invest consistently in innovation and their

*(continued)*



**Audio Clip** of an interview with Tim Jones discussing the link between innovation and growth is available on the Innovation Portal at [www.innovation-portal.info](http://www.innovation-portal.info)

subsequent performance.<sup>2</sup> His findings show that over a sustained period of time there is a strongly positive link between the two; innovative organizations are more profitable and more successful.

Survival and growth poses a problem for established players but a huge opportunity for newcomers to rewrite the rules of the game. One person's problem is another's opportunity and the nature of innovation is that it is fundamentally about **entrepreneurship**. The skill to spot opportunities and create new ways to exploit them is at the heart of the innovation process. Entrepreneurs are risk-takers, but they calculate the costs of taking a bright idea forward against the potential gains if they succeed in doing something different – especially if that involves upstaging the players already in the game.

## INNOVATION IN ACTION 1.4

### Global Innovation Performance

The consultancy Arthur D. Little conducts a regular survey of senior executives around the world exploring innovation.<sup>3</sup> In its 2012 survey of 650 organizations, the following emerged:

- Top quartile innovation performers obtain on average 13% more profit from new products and services than average performers do, and 30% shorter time-to-break-even, although the gap is narrowing.
- There is a clear correlation between capability in innovation measurement and innovation success.
- A number of key innovation management practices have a particularly strong impact on innovation performance across industries.

Of course, not all games are about win/lose outcomes. Public services like healthcare, education and social security may not generate profits but they do affect the quality of life for millions of people. Bright ideas when implemented well can lead to valued new services and the efficient delivery of existing ones at a time when pressure on national purse strings is becoming ever tighter. New ideas – whether wind-up radios in Tanzania or micro-credit financing schemes in Bangladesh – have the potential to change the quality of life and the availability of opportunity for people in some of the poorest regions of the world. There's plenty of scope for innovation and entrepreneurship and sometimes this really is about life and death. Table 1.1 gives some examples.

**TABLE 1.1** Where innovation makes a difference

Innovation is about ....	Examples
Identifying or creating opportunities	Innovation is driven by the ability to see connections, to spot opportunities and to take advantage of them. Sometimes this is about completely new possibilities, for example by exploiting radical breakthroughs in technology. New drugs based on genetic manipulation have opened a major new front in the war against disease. Mobile phones, tablets and other devices have revolutionized where and when we communicate. Even the humble window pane is the result of radical technological innovation – almost all the window glass in the world is made these days by the Pilkington float glass process which moved the industry away from the time-consuming process of grinding and polishing to get a flat surface

**Case Study** of James Dyson and his innovation-led business is available on the Innovation Portal at [www.innovation-portal.info](http://www.innovation-portal.info)



New ways of serving existing markets	Innovation isn't just about opening up new markets; it can also offer new ways of serving established and mature ones. Low-cost airlines are still about transportation, but the innovations firms like Southwest Airlines, easyJet and Ryanair have introduced have revolutionized air travel and grown the market in the process. Despite a global shift in textile and clothing manufacture towards developing countries, the Spanish company Inditex (through its retail outlets under various names, including Zara) has pioneered a highly flexible, fast turnaround clothing operation with over 2000 outlets in 52 countries. It was founded by Amancio Ortega Gaona, who set up a small operation in the west of Spain in La Coruña – a region not previously noted for textile production – and the first store opened there in 1975. The company now has over 5000 stores worldwide and is the world's biggest clothing retailer; significantly, it is also the only manufacturer to offer specific collections for northern and southern hemisphere markets. Central to the Inditex philosophy is close linkage between design, manufacture and retailing and its network of stores constantly feeds back information about trends, which are used to generate new designs. It also experiments with new ideas directly on the public, trying samples of cloth or design and quickly getting back indications of what is going to catch on. Despite its global orientation, most manufacturing is still done in Spain, and it has managed to reduce the turnaround time between a trigger signal for an innovation and responding to it to around 15 days
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(continued)

TABLE 1.1 (Continued)




Innovation is about ....	Examples
Growing new markets	<p data-bbox="267 402 379 518"> <b>Case Study</b> of Zara and how it has used innovation around design and ‘fast fashion’ to create new opportunities in a crowded and mature marketplace is available on the Innovation Portal at <a href="http://www.innovation-portal.info">www.innovation-portal.info</a></p> <p>Equally important is the ability to spot where and how new markets can be created and grown. Alexander Bell’s invention of the telephone didn’t lead to an overnight revolution in communications – that depended on developing the market for person-to-person communications. Henry Ford may not have invented the motor car but in making the Model T – ‘a car for Everyman’ at a price most people could afford – he grew the mass market for personal transportation. And eBay justifies its multi-billion-dollar price tag not because of the technology behind its online auction idea but because it created and grew the market</p>
Rethinking services	<p data-bbox="267 899 379 1016"> <b>Case Study</b> of the Model T Ford is available on the Innovation Portal at <a href="http://www.innovation-portal.info">www.innovation-portal.info</a></p> <p>In most economies the service sector accounts for the vast majority of activity, so there is likely to be plenty of scope. And the lower capital costs often mean that the opportunities for new entrants and radical change are greatest in the service sector. Online banking and insurance have become commonplace but they have radically transformed the efficiencies with which those sectors work and the range of services they can provide. New entrants riding the Internet wave have rewritten the rule book for a wide range of industrial games, for example Amazon in retailing, eBay in market trading and auctions, Google in advertising and Skype in telephony</p>
	<p data-bbox="267 1405 379 1522"> <b>Case Study</b> of Alibaba and the Taobao online shopping mall, one of the world’s top ten most visited websites, is available on the Innovation Portal at <a href="http://www.innovation-portal.info">www.innovation-portal.info</a></p>

TABLE 1.1 (Continued)

Innovation is about ....	Examples
Meeting social needs	Innovation offers huge challenges – and opportunities – for the public sector. Pressure to deliver more and better services without increasing the tax burden is a puzzle likely to keep many civil servants awake at night. But it's not an impossible dream: right across the spectrum there are examples of innovation changing the way the sector works. For example, in healthcare there have been major improvements in efficiencies around key targets such as waiting times. Hospitals like the Leicester Royal Infirmary in the UK or the Karolinska Hospital in Stockholm, Sweden have managed to make radical improvements in the speed, quality and effectiveness of their care services, such as cutting waiting lists for elective surgery by 75% and cancellations by 80%, through innovation

**Case Studies** of innovation in public services, Karolinska Hospital, Aravind Eye Clinics and Narayana Hrudayalaya Hospitals (NHL), are available on the Innovation Portal at [www.innovation-portal.info](http://www.innovation-portal.info)



Improving operations – doing what we do but better	At the other end of the scale Kumba Resources is a large South African mining company which makes another dramatic claim: 'We move mountains.' In Kumba's case, the mountains contain iron ore and the company's huge operations require large-scale excavation – and restitution of the landscape afterwards. Much of its business involves complex large-scale machinery – and its ability to keep it running and productive depends on a workforce able to contribute innovative ideas on a continuing basis
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**Case Study** of Kumba's innovation activities is available on the Innovation Portal at [www.innovation-portal.info](http://www.innovation-portal.info)



## INNOVATION IN ACTION 1.5

### Finding Opportunities

- When the Tasman Bridge collapsed in Hobart, Tasmania in 1975, Robert Clifford was running a small ferry company and saw an opportunity to capitalize on the increased demand

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