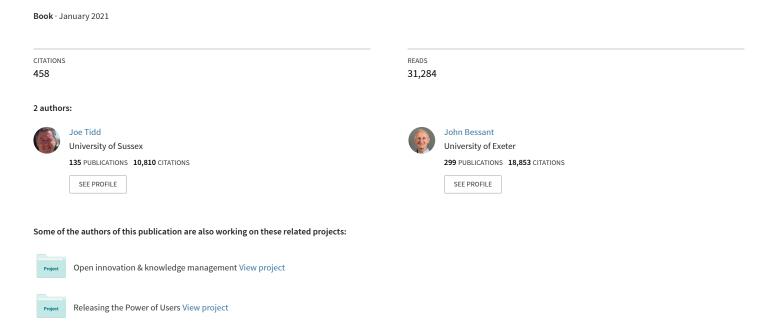
Managing Innovation Integrating Technological, Market and Organizational Change





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sity of Exeter and has visiting appointments at the University of Erlangen-Nuremburg and the University of Stavanger, Norway.







Preface to the Seventh Edition

Innovative firms outperform, in both employment and sales, firms that fail to innovate [1]. We know that those organizations that are consistently successful at managing innovation outperform their peers in terms of growth, financial performance and employment and that the broader social benefits of innovation are even greater [2]. However, managing innovation is not easy or automatic. It requires skills and knowledge, which are significantly different to the standard management toolkit and experience, because most management training and advice are aimed to maintain stability, hence the most sought after degree is an MBA – Master of Business Administration. As a result, most organizations either simply do not formally manage the innovation process or manage it in an ad hoc way. Studies confirm that only around 12% of organizations successfully manage innovation, and only half of these organizations do so consistently across time [3].

Since the first edition of *Managing Innovation* was published in 1997, we have argued consistently that successful innovation management is much more than managing a single aspect, such as creativity, entrepreneurship, research and development or product development [4]. Our companion texts deal with such issues more fully [5], but here we continue to promote an integrated process approach, which deals with the interactions between changes in markets, technology and organization. In this seventh edition, we continue our tradition of differentiating our work from that of others by developing its unique characteristics:

- Strong evidence-based approach to the understanding and practice of managing innovation, drawing upon thousands of research projects, and 'Research Notes' on the very latest research findings. *Managing Innovation* had more than 11,000 citations in Google Scholar;
- Practical, experience-tested processes, models and tools, including 'View', first-person accounts from practicing managers on the challenges they face managing innovation;
- Extensive additional interactive resources, available from the Wiley Book Companion Site (BCS), including video, audio pod casts, innovation tools, interactive exercises and tests to help apply the learning. Further video is available on our YouTube channel, *innovation masters*.

In this fully updated seventh edition, we draw upon the latest research and practice, and have extended our coverage of topical and relevant subjects, including digital innovation [6], business model innovation, open innovation [7], user innovation [8], crowdsourcing [9], service [10] and social innovation [11]. In 2019 a new international ISO standard was developed for managing innovation systems, ISO56002, which closely follows our approach in this text (see Table)

Table. Mapping the ISO56002 Standard for Innovation Management Systems against topics in this book [12]

ISO56002 Standard 2019 "Managing Innovation Systems"	Chapters in Managing Innovation, 7th edition
Intent	1. What is innovation and why does it matter?
Context of organization	5. Building an innovative organization
Leadership	5. Building an innovative organization
Planning	9. Dealing with uncertainty







ISO56002 Standard 2019 "Managing Innovation Systems"	Chapters in Managing Innovation, 7th edition
Support	4. Developing an innovation strategy
Process:	3. Innovation as a core business process
1. Identify opportunities	7. & 8. Sources and search for opportunities
2. Create concepts	10. Creating new products and services
3. Validate concepts	10. Creating new products and services
4. Develop solutions	10. Creating new products and services
5. Deploy solutions	11. Exploring open innovation and collaboration
Performance evaluation	15. Capturing learning and building capability
Improvement	15. Capturing learning and building capability
Value	13. & 14. Creating and capturing value

Our understanding of innovation continues to develop, through systematic research, experimentation and the ultimate test of management practice and experience. As a result, it is a challenge for all of us interested in innovation to keep abreast of this fast-developing and multidisciplinary field. As we declared in the first edition, and still believe strongly, this book is designed to encourage and support practice, and organization-specific experimentation and learning, and not to substitute for it.

We would like to acknowledge the extensive feedback, support and contributions from users of the previous editions, our own colleagues and students, the team at Wiley and the growing community of innovation scholars and professionals who have contributed directly to this seventh edition, in particular, the generous participants in the workshops we ran in London, Manchester, Melbourne, Rotterdam, Berlin, Barcelona, Helsinki, Budapest and Kuala Lumpur.

JOE TIDD & JOHN BESSANT

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- J. Tidd and B. Thuriaux-Alemán, 'Innovation management practices: Cross-sectorial adoption, variation and effectiveness', *R&D Management*, vol. 46, no. 3, pp. 1024–1043, 2016.
- A. Brem, J. Tidd, and T. Daim, Managing innovation: What do we know about innovation success factors? London: World Scientific, 2019.
- B. Jaruzelski, J. Loehr, and R. Holman, 'The global innovation 1000: Why culture is key', *Strategy+ Business*, Issue 65, 2011, Booz and Company.
- J. Tidd and J. Bessant, 'Innovation management challenges: From fads to fundamentals', *Inter*national Journal of Innovation Management, vol. 22, no. 5, p. 1840007, 2018.
- J. Bessant and J. Tidd, Entrepreneurship. Wiley, 2018; Innovation and entrepreneurship, 3rd ed. Wiley, 2015; Strategic innovation management. Wiley, 2014; S. Isaksen and J. Tidd, Meeting the innovation challenge: Leadership for transformation and growth. Wiley, 2006; J. Bessant, High involvement innovation. Wiley, 2003.

- J. Tidd, Digital Disruptive Innovation. London: World Scientific, 2020.
- J. Tidd, Open innovation research, management and practice. London: Imperial College Press, 2013.
- F. Schweitzer and J. Tidd, Innovation heroes: understanding customers as a valuable innovation resource. London: World Scientific, 2018.
- A. Brem, J. Tidd, and T. Daim, Managing innovation: understanding and motivating crowds. London: World Scientific, 2019.
- J. Tidd and F.M. Hull, Service innovation: organizational responses to technological opportunities and market imperatives. London: Imperial College Press, 2003.
- 11. T. Iakovleva, E.M. Oftedal, and J. Bessant, Responsible innovation in digital health: empowering the patient. Cheltenham, UK: Edward Elgar, 2019.
- J. Tidd, 'A review and critical assessment of the ISO56002 innovation management systems standard: evidence and limitations', *International Journal* of *Innovation Management*, vol. 24, no. 1, 2021.

REFERENCES





How to Use This Book: Key Features

This seventh edition of *Managing Innovation* has seven key features throughout the book and as associated resources to support learning:

- **1. Research Notes**, which present the latest empirical findings from academic studies to deepen your knowledge.
- 2. View, first-person accounts of how innovation is managed in practice.
- 3. Video interviews, experienced managers and leading academics share their insights.
- 4. Examples of Innovation in Action, short, real-life examples of innovation.
- 5. **Practical Tools**, to experiment and apply the models and methods to improve innovation in a range of contexts.
- 6. Extended Case Studies, for deeper understanding, class discussion, and analysis.
- 7. Multiple-choice Questions, to chart progress and test the understanding of key concepts.

In this print edition, most of these additional features are freely available to students on the Wiley Book Companion Site (BCS), which is available from the main book page you can find through https://www.wiley.com/en-us/.

In addition, for instructors, the BCS provides Power Point slides, exercises and a test bank of questions and answers.







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