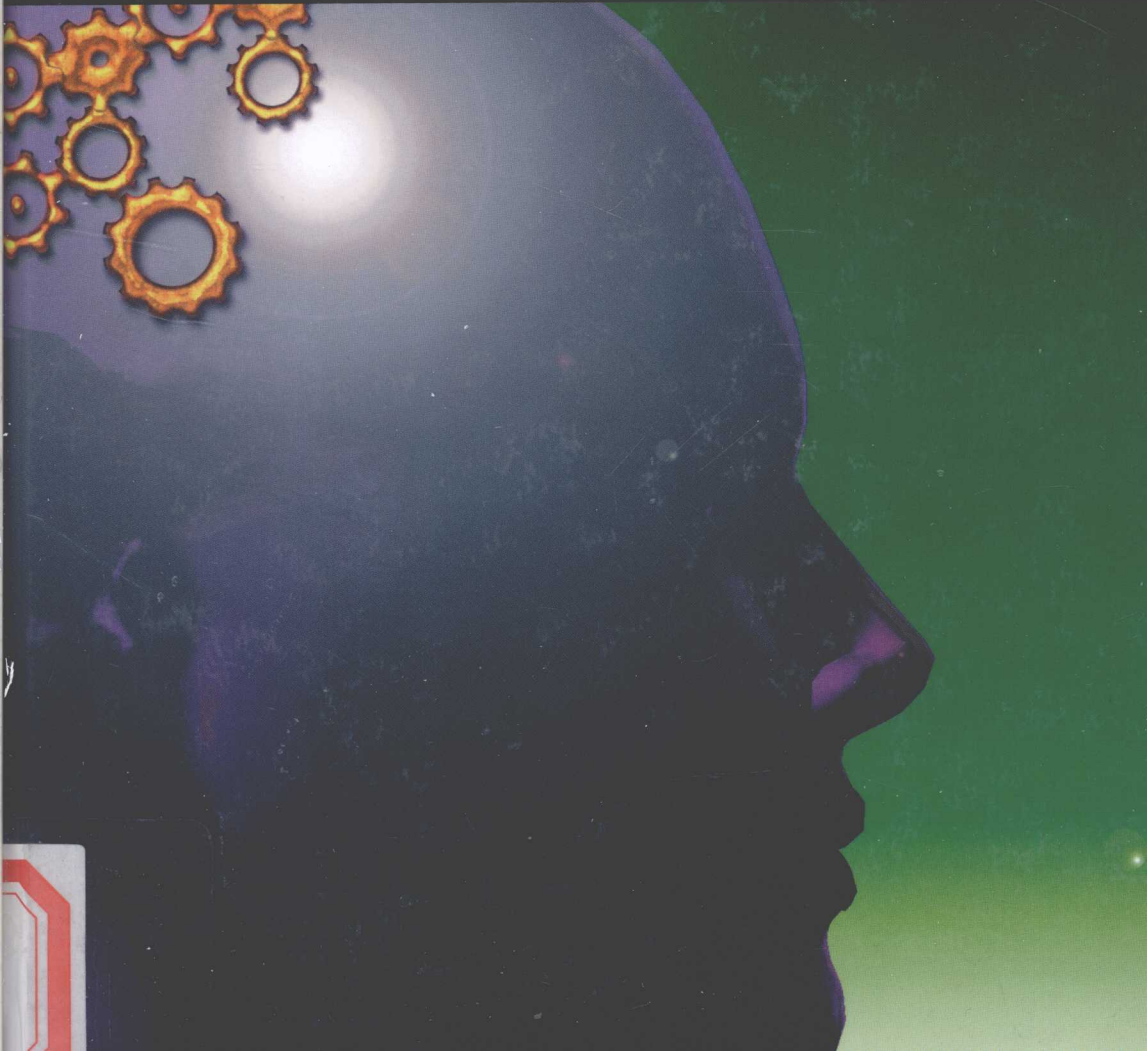




# Handbook on the Knowledge Economy, Volume Two

Edited by **David Rooney, Greg Hearn** and **Tim Kastle**



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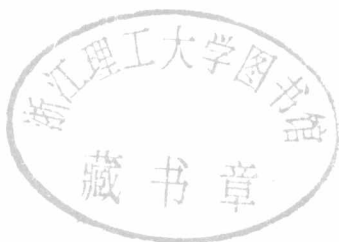
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## Preface

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The original *Handbook on the Knowledge Economy* was published in 2005 and one of our motivations for putting it together was to increase knowledge about knowledge and to present what is known about knowledge in an accessible form for researchers, policy professionals, managers and students. The evidence suggests this approach met with some success. Sales of the original *Handbook* have been healthy and the book and individual chapters in it have been widely cited in scholarly journals, professional journals, books, theses and dissertations, as well as in various government and industry publications in many countries. Like its predecessor, this volume attempts to maintain a similar stance and have a similar impact.

The central theoretical organizing principle of the *Handbook* is that knowledge has no practical meaning in the absence of people and life. This second volume therefore maintains the focus on people and social concerns that was central to its predecessor. The reason for this is both theoretical and instrumental. The theoretical reason is because contemporary research has clearly shown that human social behaviours are fundamental drivers of knowledge systems. The practical reason is that because people and social factors are central to knowledge systems, there is no choice but for knowledge research, knowledge management and knowledge policy production to understand and work with these fundamentals if they are to achieve positive outcomes.

Knowledge enacted in life always has some political dimension to it. In some uses it is big 'P' Politics and in other uses it is small 'p' politics. Sometimes we call this political dimension persuasive, or purposive, or strategic, or goal oriented, but it is still political. Academic books always have purposes and goals that encompass big or small 'p' politics. In this light, we acknowledge that always close to its surface is this book's editors' and authors' collective senses of democracy, openness, humanity and respect for knowledge of many different kinds and origins. Indeed, some chapters in this and the previous volume directly address the dynamics of politics and power in and around knowledge. Others offer insights about how to be more open or humane. Sociological, social philosophy and social psychological dynamics inform yet more chapters, including those chapters written from legal and economic perspectives.

Collectively, the two volumes of the *Handbook on the Knowledge Economy* cover a considerable amount of territory in pursuit of enhancing

the world by dealing better with knowledge and knowledge-based activities. Having said this, we still cannot claim to have covered all the bases. Knowledge is an aspect of all human activity and there is still a need for knowledge research, knowledge management and knowledge policy to continue to push back the limits of their foci.

We acknowledge Edward Elgar, the company and the man, for supporting this series (and other books we have published on knowledge). We have known Edward for many years and have always enjoyed the personal touch he brings to the arduous job of book publishing. It is appropriate to acknowledge here the contribution that Edward has made to intellectual life through his work as a publisher. His proclivity to give voice to those who have something different to say, something challenging to say, or something difficult to say has made a difference and we value that. We also enjoy the enthusiastic and effective way the publishing team at Edward Elgar always approach completing a book. We also thank all of our contributors who have taken the time and effort to write for this book. Writing a chapter for a book like this is a non-trivial task and it takes a great deal of time; something none of us have much of.

David Rooney, Greg Hearn and Tim Kastle  
Brisbane, March 2011



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# 1 Knowledge is people doing things, knowledge economies are people doing things with better outcomes for more people

*David Rooney, Greg Hearn and Tim Kastle*

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Activities directed at harnessing knowledge for economic and social development have grown since the original edition of the *Handbook on the Knowledge Economy* (Rooney et al., 2005) was published. Politicians, the world's news media and key people in the Blogosphere now use the terms knowledge economy and knowledge-based economy as part of their normal chatter. More governments are now investing greater amounts of money and time in creating policies to address their knowledge economy goals. The World Bank, the European Union, national governments across the Middle East, Africa, Asia (South Korea, China and India in particular), Australia and the Pacific, Europe and many provincial and local governments are now engaged in knowledge economy policy development. If knowledge economies are about better outcomes for more people, this growth of activity is welcome. Much of what people say in the name of knowledge economies, though, remains short on reality and long on hyperbole and because of this it is questionable if widespread benefits will result.

Happily, much of the hyperbole about knowledge and knowledge economies that surrounded debates five years ago is now counterbalanced by useful critiques, research and learning from experience. Getting to grips with what knowledge is and how it can work better for communities, businesses and individuals is important, but knowledge is not going to give communities, businesses or individuals a magic carpet ride to riches and joy. Any rewards from knowledge policy will result from informed and careful policy analysis and implementation. We still need to get beyond knowledge economy rhetoric that is not much more than public relations (PR) for the information technology (IT) and biotech industries, shallow marketing for university courses, self-aggrandisement for management consultants or political spin.

This second volume of the *Handbook on the Knowledge Economy* introduces a new set of topics and expert authors from the research and

business communities to present up to date ideas about knowledge and related issues like creativity and innovation. Compared to the original *Handbook* we have introduced more of an innovation focus. In recent years, the knowledge and innovation communities have grown closer together. This is a good move because knowledge and innovation are two sides of the same coin. Knowledge is an important part of creative thinking. As Weisberg (1999) says, differences between very creative and less creative people are likely to be found in their attitudes to knowledge, the depth of knowledge they possess and how deftly they use their knowledge.

Less obvious but no less important topics such as the relationship of knowledge to philosophical ideas (truth, wisdom) and psychological constructs (attention, well-being) are covered in these pages. This is a development that has grown out of our conviction in the first edition that knowledge is socially constructed and cannot be fully understood only within a technological frame of reference. These broader concerns are essential underpinnings for the development of knowledge-related policies and management methods that can inform all areas of social and economic development.

It is also important that this volume has more to say about analysis of knowledge systems. We linked considerations about knowledge to systems theory in an earlier book (Rooney et al., 2003) and pointed out that knowledge policy development can be thought of as system design. In particular, we showed how complex systems theory and within that the operation of networks were central to understanding not only the social institutions of knowledge but the conceptual structure of knowledge itself. These remain important considerations in this volume. Indeed, a distinctive focus this book has is innovation networks. Research methods using network theory and tools have moved quickly in the last few years offering a much sounder basis for devising evidence-based policy and management initiatives that seek to do something about knowledge.

Business continues to develop ways of better using its knowledge. Interestingly though, the term knowledge management has fallen out of favour in some parts of the world. We should not take this as a sign that business has given up on knowledge as a key focus of management, it is more a sign that the naivety of early knowledge management approaches did not work. The idea that bigger and bigger information technology systems equal better knowledge management proved questionable. These information technology systems were important parts of the intellectual infrastructure in many businesses and remain so, but it is people and how they interact that matters most. Knowledge remains an object of management concern but many managers now see knowledge as a more diffuse resource, embedded in people and relationships that permeate all

aspects of business activities and management functions, and the chapters that follow will help to continue this shift (Rooney and Schneider, 2005). Knowledge as people doing things can be an organizing principle for human resource managers, information systems managers, marketing managers, innovation managers, strategy managers and many others.

Arguably, an even greater challenge for knowledge utilization is in public policy. Today, knowledge economy rhetoric is probably more noticeable than knowledge management rhetoric. The editors receive daily alerts (from Google Alerts) for web pages, online newspaper articles, and blogs where writers discuss knowledge policy, knowledge economy and knowledge-based economy issues. Overwhelmingly, these media texts describe a knowledge economy as a place where there are more scientists, more engineers and more technology. If knowledge economies are the object of public policy production, policy makers need more sophisticated thinking than this. More scientists and engineers and technology for their own sake is not good enough. Keep in mind as well that in modern advanced economies it is the services sector in the form of, for example, banking and finance, business services, health and well-being, education and training, entertainment, various lifestyle-oriented industries and retailing that drive wealth creation. Science, mathematics and technology provide much for these (and other) industries, and they are very important, but equally, social science in the form of economic, sociological, psychological, marketing, legal and arts knowledge is indispensable. Consumption in these economies is notable for its focus on intangibles like status, identity and image, where branding and other ineffables are important selling points. As important as they are, science, engineering and technology are only part of this world. At issue here is that public policy needs to take a broader view. We have argued elsewhere (Hearn and Rooney, 2008; Rooney et al., 2003) that innovation policy, for example, should include service sector innovation (including science-based services), social innovation, business process innovation, public sector innovation and creative industries.

As already noted, wisdom is something that has been included in both editions of the *Handbook*. Interest in wisdom has increased, particularly since the Global Financial Crisis that began in 2007. We argue that if applying knowledge is important, then wisdom should be part of the mix. As Sternberg argues, average IQ continues to increase in developed nations, but we do not seem to get any wiser (Sternberg, 2003, 2004). In this book this observation translates by saying that at the same time as intelligence has increased, knowledge has become super abundant, but super abundant knowledge has not solved our major global problems. How we humans enact knowledge or intelligence is, it would seem, less

effective than we might reasonably expect. A wisdom perspective on knowledge economies, knowledge work and knowledge policy places values, ethics, judgement, insight, creativity and other aspects of *how* knowledge is used in the centre. We take a social practice view of wisdom (Rooney et al., 2010) where, ultimately, the wisdom of actions is judged by outcomes that help humanity to flourish. If the wisdom of centuries of knowledge production and implementation is put under examination in light of global climate change, global conflict, global poverty and global health, the report card is rather mixed and possibly disappointing. The closing statement on the report card for knowledge producers and users might be 'must do better'.

Fortunately, knowledge about how knowledge works in daily life continues to grow. Philosophers, sociologists and others have been studying knowledge for a very long time, for millennia in the case of philosophers. Getting to the bottom of how knowledge works for the benefit of humanity and the planet has been a very difficult job. We undoubtedly still have a long way to go, but we know enough now to be sure we can make a difference. Given the condition of our planet, we probably need to make a positive difference sooner rather than later.

There is a difficult balance between the abstract detachment of much knowledge in knowledge economies and concrete, particular realities. One thing we argue that is new about knowledge economies is the extent to which abstract knowledge in the form of formal theory plays a role in economic life. A reason that the recent Global Financial Crisis prompted talk about distinguishing between the financial economy and the real economy is to do with abstraction. The financial economy is a very abstract place, full of derivative instruments that are more concept than concrete and are only indirectly linked to tangible assets. Abstractness poses important challenges for policy and management. Being too caught up in abstract activities may cause perverse outcomes (cf. Long, 2008).

The ancient problem of putting theory in to practice will remain with us. The ancient Greeks called this theory-practice nexus *praxis*. Some chapters in this book specifically provide examples of putting theory into practice; in particular, open innovation theory and communities of practice theory. Mark Bennett, Roland Harwood and David Simoes-Brown are theoretically literate practitioners who have found ways to make difficult social science theory work in practice and their chapters are important components of this book. Our argument is not that theory is bad; it is that we need to get better at making it and applying it because it is likely to become even more important in the future.

In the next chapter, Nico Stehr and Jason Mast provide us with a guided tour of knowledge economy and knowledge society thinking. It is worth

noting that Nico Stehr has been involved in social research of knowledge systems since the 1980s when, with Bömhe, he co-authored the book that coined the term knowledge society. Stehr and Mast, then, are well qualified to take us on that intellectual tour. They express particular concern for the lack of capacity that mainstream economic theory has to deal with the realities of knowledge economies and societies. In particular, they discuss how ill-equipped is the neoclassical ideology that has infused so much economic thought and management in recent decades. This ideology is not only unkind to humanity, but because of it, it is unkind to knowledge.

What we must also take note of is the emphasis Stehr and Mast place on risk and anxiety. They build on the risk society work of Ulrich Beck that links the anxiety of our time to knowledge. In short, the argument is that the more we learn, the more conscious we are of what we still do not know. Not knowing pushes us to create more knowledge because we are now intolerant of ignorance. When this cycle becomes intense enough we feel anxious and unable to comfortably deal with uncertainty. The message is that knowledge does not cure all things and can cause its own dysfunctions. Policy, business and research leaders need to be conscious of such dynamics. Knowledge has its downsides and we need to be realistic about that. Knowledge is also restless, it never sits still and constantly changes and this means human understandings of the world and life keep moving. How we understand things largely drives how we act. The parting thoughts in this chapter are about who is excluded from the benefits of a knowledge economy and what kinds of things does knowledge economy discourse obscure that should not be obscured. These issues are picked up in the chapter that follows.

Jennifer Adelstein and Stewart Clegg consider some fundamental issues for knowledge economies. At the centre of their attention are power and truth. If knowledge is power, then how much of it is the truth? As we suggest in the Preface, knowledge is always political, which means it is always about the exercise of power – including soft power used in covert ways. Clegg's name will be familiar to anyone who reads management research and he has published copious amounts on management and knowledge, power and even wisdom. In this chapter, Adelstein and Clegg raise what has become an awkward topic, truth. In an age dominated by relativism, truth has been a casualty in the war over reality. What do we mean by this? Well, as Adelstein and Clegg so elegantly show, in a knowledge economy whoever dominates discourse dominates the version of reality that most people subscribe to. If apparently reliable authorities tell us that market fundamentalism will yield riches and well-being for all, we are very likely to believe them, even if it is not true.

What this chapter reminds us of is that intellectual authority brings



with its particular challenges, especially ethical and political challenges. The story of the chapter is about how knowledge policy makers need to tread carefully if they are to create public knowledge policy that induces well-being for all. A particular line of argument that Adelstein and Clegg develop is around the perils of locking up knowledge using legal instruments of private ownership, intellectual property rights. The earlier *Handbook* also deals with these issues (Drahos, 2005; Fitzgerald and Reid, 2005). To put it in one of the editors' words, the automatic assumption that knowledge should be privately excluded from the community is anti-social and therefore anti-intellectual (cf. Graham and Rooney, 2001). Knowledge is fundamentally social; and the original edition of the *Handbook* makes this point as well (Rooney and Schneider, 2005). Linked to this is that knowledge policy should be about people first, economy second. It really is just a matter of clear thinking, logic and working in the light of good research and practice.

If knowledge policy is about people, then Hans-Jürgen Engelbrecht argues it is about well-being, rather than simply wealth and technology. Engelbrecht is one of the new breed of economists that challenge their discipline's reputation as the dismal science to include happiness and well-being. Knowledge economy policy, economics and health sciences come together in this chapter. Wilkinson and Pickett (2009) argue that in Organisation for Economic Co-operation and Development (OECD) countries there is little to gain in terms of well-being by setting policy to increase gross domestic product (GDP); OECD countries are already wealthy enough. Wealthy countries need something more than money if they are to improve well-being. This is further reason to see knowledge as more than simply an economic resource. In his previous work, Engelbrecht (2007, 2009) links knowledge to unhappiness and to the Global Financial Crisis of the latter years of the first decade of the twenty-first century. In this chapter, Engelbrecht makes the case that knowledge policy should have well-being at the centre of its focus.

Knowledge work may in fact be a risk to health; indeed, Stehr and Mast suggest in their chapter it may cause anxiety. A recent study (Hilton et al., 2008) shows that in Australian workplaces 4.5 per cent of employees suffer high psychological distress, 78 per cent of these people are receiving no treatment and 31 per cent do not recognize they have high levels of psychological distress. The rate of psychological distress is higher across the board in the public sector, the finance industry, in mid-ranking white-collar workers, in employees holding postgraduate qualifications and where people work long hours. Many of these categories might fit the description of contemporary knowledge workers. Number of hours worked is the best predictor of psychological distress, depression in particular is