

# 1. Introduction

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Therefore, to every spirit which Christianity summons to her service, her exhortation is: Do what you can, and confess frankly what you are unable to do; neither let your effort be shortened for fear of failure, nor your confession silenced for fear of shame. And it is, perhaps, the principal admirableness of the Gothic schools of architecture, that they thus receive the results of the labour of inferior minds; and out of fragments full of imperfection, and betraying that imperfection in every touch, indulgently raise up a stately and unaccusable whole.

John Ruskin<sup>1</sup>

This book is concerned with what I shall call *common* innovation. This is not a term in general use, but I think it *should* be, because the concept deserves far more attention from economists and others who study the impact of innovation on the economy.

Common innovation is carried out by ‘the common man and woman’ for their own benefit. It takes place *quite outside* the domain of business, the professions or government. It could, indeed, be described as *non-business* innovation, to emphasise its essential difference from business innovation. It could also be called *vernacular*, as it is not intended for commercial use,<sup>2</sup> but for the benefit of the innovators and their community.

As such, the concept of common innovation is somewhat unfamiliar to the academic discipline of economics. For the most part, economists who study innovation actually study *business* innovation. And, even more so, common innovation is distinctly ‘foreign’ to *business itself* – to the extent that some in business, at least, deny there is any such thing as common innovation.

Business innovation and common innovation are fundamentally different. The first is a professional activity carried out by specialists in the business sector. It is often expensive because it involves making unusual, and sometimes exceptional, advances. By contrast, common innovation is non-professional and is carried out by ‘the common man and woman’ outside business. It often involves quite ordinary and unexceptional activity.

## RELATIONSHIP TO OTHER CATEGORIES

I said above that the term, *common innovation*, is not in general use. As

there are already so many adjectives added to the noun ‘innovation’, it is appropriate that we should justify the addition of another adjective.

How does common innovation compare with some other important categories of innovation well known in the literature? The closest are von Hippel’s (2005) concepts of *democratic* innovation and *user-centred* innovation. The work in this book builds on these very important concepts, but, arguably, goes one step further. Von Hippel (2005) describes innovation that is designed by the user, and not just by the supplier. Nevertheless, much of what he considers is still *business* innovation, though some of it – especially the more recent work – would count as common innovation.<sup>3</sup> Common innovation also describes innovation that is designed by the user, or by a wide variety of others outside business – but the essential point is that these common innovations are *not* business innovation. Common innovation shares the democratic character of the innovations considered by von Hippel, but the common innovators remove business from the innovation process, or at least, consign it to a marginal role. So while von Hippel’s concepts of *democratic* innovation and *user-centred* innovation are obviously quite close to my concept of common innovation, they are not quite the same.

And what of other innovation adjectives that are well known to scholars in the field? Common innovation shares something with Stoneman’s (2010) concept of *soft* innovation, in that it examines innovation in areas of activity that were not traditionally considered to be very innovative. Common innovation also overlaps, to some extent, with Chesborough’s (2003) concept of *open* innovation. Innovation activities in common innovation are often open, rather than closed. Common innovation is typically ‘local’, and therefore it also overlaps with the concept of *localised* technological change, discussed by Atkinson and Stiglitz (1969) and developed by Antonelli (1995, 2008). It also overlaps with the popular concept of *frugal* innovation,<sup>4</sup> and again it has a substantial overlap with *social* innovation, which is concerned with those innovations that meet social needs and in doing so help to strengthen society.<sup>5</sup>

The choice of the word ‘common’ might suggest that common innovation overlaps with the idea of *collective* innovation (Allen, 1983) and that is indeed possible. However, the sense in which we use the word common is different: we are talking of innovation that is frequent, pervasive, non-professional, unexceptional and modest. Certainly, some common innovation activity is *collective*, and it is generally open, non-proprietary and non-rival. But much common innovation is *not* collective.

In short, while *common* innovation may overlap to some extent with all of these other categories of innovation, it is not the same as any of them. Common innovation refers to innovative activities of ordinary people in their everyday life – quite apart from the activities of innovation professionals in

the business world. The concept of *common* innovation is *not* made redundant by other innovation adjectives.

## ECONOMICS AND COMMON INNOVATION

What do economists have to say about common innovation? The short answer to this question is, ‘not very much’ – or not yet, anyway. Why not? After all, a standard definition of innovation is this: the successful exploitation of new ideas.<sup>6</sup> And that is a perfectly good definition for common innovation as well as business innovation. Nevertheless, most economists tend to be concerned with various types of business innovation and apply this definition in that context. Moreover, most economists follow the Schumpeterian convention: a new idea is *invention* before it is commercially exploited. It only becomes *innovation* when it is commercially exploited.

In view of that, some might say that common innovation, as I call it, *cannot be innovation* because it does not involve *commercial* exploitation. But I think that is just wrong. Common innovation, which successfully exploits new ideas, also deserves the term *innovation* because it contributes to wealth creation, just as business innovation contributes to wealth creation.

There are three main areas in which common innovation is discussed in economics though not by that name. The first is in the context of household production theory (Becker 1965). Becker’s theory sees the household as a production unit. Just as a business innovation may enhance the productivity of a production unit in business, so a common innovation can enhance the productivity of the household production unit. The second is in some of the work of von Hippel’s (2005) on democratic innovation. His work has been uniquely important in getting us past the idea that innovation is (and should be) monopolised by business, but as I said above, it is slightly different. The third is the area of social innovation. Much work on social innovation originated outside economics, but it has been embraced by the economics discipline too – see Moulaert et al. (2013) and Mulgan (2007) for summaries.

## AS IMPORTANT AS BUSINESS INNOVATION?

One explanation for the relatively small literature on common innovation could be that it is of secondary importance compared to business innovation. I am certainly not convinced of that. I believe that common innovation as a whole could in some contexts be as important as, or even more important than business innovation. This has to remain a conjecture at this stage as we

simply don't have the evidence on wealth creation by common innovation.

How could this be true? Suppose that innovations of economic size  $x$  are found with frequency  $f(x)$ . By economic size, I mean the overall contribution of that innovation to wealth creation. Now suppose, for simplicity, that  $f(x)$  follows a power law:

$$f(x) = ax^{-k} \quad (1.1)$$

(where  $k \geq 0$ ). Then the total value of innovations of value  $x$  is:

$$v(x) = xf(x) = ax^{1-k} \quad (1.2)$$

From this it is clear that:

- If  $k > 1$ , then  $v(x)$  is a decreasing function of  $x$
- If  $k < 1$ , then  $v(x)$  is an increasing function of  $x$
- If  $k = 1$ , then  $v(x)$  is constant, regardless of  $x$

Crudely speaking, then, we can compare the contributions made by common and business innovation to wealth creation:

- If  $k > 1$ , then common innovation is more important
- If  $k = 1$ , then they are equally important
- If  $k < 1$ , then business innovation is more important

It seems probable that in some economies and some particular economic circumstances,  $k$  would indeed be above 1. This would mean that common innovation as a whole could be even more important than business innovation.

We should add that it would be most unlikely that the function  $f(\cdot)$  is constant, and independent of economic circumstances. In particular, it seems very likely that, in a recession, demand for many large-scale commercial innovations will decline. But some people, at least, will attempt to support their standard of living by a higher level of common innovation. In the language of Equation (1.1), it means this:  $k$  may be less than 1 in normal economic circumstances, but there is good reason to expect  $k$  to increase in a recession. I shall revisit this last idea in Part IV of the book. In particular, I think there are good reasons to expect that the austerity policies adopted by many governments will indeed lead to an increase in common innovation.

## STRUCTURE OF THE BOOK

In the rest of this chapter, I shall give a brief sketch of how the book is organised. I start with a one-paragraph summary of the book as a whole. It is in four Parts. Part I is concerned with some of the key concepts and frameworks that are needed to understand the different roles of business innovation and common innovation. In Part II, we revisit the Schumpeterian idea of business innovation as *creative destruction*; we examine seven brief case studies of business innovation and in particular the ‘destructive’ side of these. In Part III we give a brief introduction to some examples of common innovation, especially as they relate to consumption, the arts, science, education, health, the natural environment and the socio-economic environment. Part IV concludes by answering the ‘so what?’ question. We explain why common innovation is already important and may become ever more important in future.

The reader may also find it helpful if I give a slightly longer summary of each part of the book. In Chapters 2, 3 and 4, we explain three essential distinctions which play a large part in what follows. The first is the difference between what I shall call M-wealth and R-wealth. (Roughly speaking, this is the difference between material wealth and welfare). The second is the distinction between business innovation and common innovation. And the third is the difference between *oikonomia* (the ancient Greek word from which economy is derived) and the modern concept of the economy.

Then, in Chapter 5, we turn to an essential point that is well understood by economists but is often overlooked in business and policy circles. It is not straightforward to assess the value of a business innovation or its contribution to wealth. The value to the innovator, the value to the user and the value to society as a whole are three rather different calculations and need bear little relationship to each other.

In Chapter 6 we describe the frameworks we shall use to analyse the role of innovation in wealth creation. To understand the role of business innovation in creating M-wealth requires a relatively simple framework. But to understand the role of common innovation in creating R-wealth, we need a more complex framework.

Part II contains a series of seven brief case studies which illustrate some of the destructive side-effects of innovation. These are a fairly random selection, chosen for interest and not as a carefully structured sample to represent the population as a whole. But all of them, in their different ways, illustrate that the destructive side of business innovation is for real, and can be devastating. Two are historical examples: Chapter 7 on wide frames and the Luddites, and Chapter 8 on the division of labour. The rest are

contemporary: Chapter 9 is about online and local booksellers, Chapter 10 concerns software innovation and e-waste, and Chapter 11 examines what we call, Parkinson's Law of traffic. Chapter 12 examines how innovation may damage the consumer as a person and Chapter 13 examines the destructive side of a particular financial innovation (high frequency trading). To help the reader form a concise overview, Chapter 14 offers a brief summary of the destructive effects found in these cases.

Part III follows on from the discussion in Chapter 3. There we argued that if business innovation is a 'perennial gale of creative destruction', then common innovation is usually closer to a 'gentle and benign breeze'. Part III describes some examples of how common innovation can create R-wealth by its effects on: consumption and the home (16), the natural environment (17), the socio-economic environment (18), education (19), arts (20), sciences (21) and health (22). Then in Chapter 23, we look at some of the innovation activities in business and the marketplace that are closer to common innovation than business innovation. We also see that common innovation and business innovation can sometimes act in an informal joint venture – but only if business innovators keep the good will of their consumers, their employees and the citizens in neighbourhoods where they operate.

Finally, in Part IV, we summarise the implications of common innovation and advance several hypotheses which suggest that common innovation may become more important in the future.

The first two chapters spell out some important implications. In Chapter 24, one implication is that some common assertions about business, innovation and wealth creation are really just myths. Our analysis implies that business has no monopoly of wealth creation, nor a monopoly of useful innovation. It also implies that it would be quite wrong to assume that M-wealth is more important than R-wealth. In Chapter 25, we discuss a second implication: that there are many paths to R-wealth creation and business is not necessarily the main channel to R-wealth creation.

The final chapter (26) states some hypotheses about C-innovation, and why it may become more important in future. We note that that standard methods of national accounting cannot capture the role of common innovation in wealth creation, and we suggest how such a role might be measured in future. We suggest that C-innovation is better suited than B-innovation to the pressing need for sustainability in a finite world. And we conclude that C-innovation is likely to become *more* important in future, that B-innovation may become *less* important in future, and C-innovation may become an important counter-balance to business innovation in a world where business was once, perhaps, the servant of society, but is now firmly the master.

## NOTES

- <sup>1</sup> Ruskin (1904/1996, vol. 10, p. 190).
- <sup>2</sup> Ilich (1982) made some essential observations about the social role of the vernacular.
- <sup>3</sup> After this manuscript was finished and the book was in production, Rui Baptista drew my attention to some recent work by von Hippel and colleagues on *patient innovation* (see Stock et al., 2013). This is undoubtedly a powerful example of common innovation, as I use that term, in the particular context of health care.
- <sup>4</sup> See Guardian (2012a) and Radjou et al. (2012).
- <sup>5</sup> See Moolaert et al. (2013) and Mulgan (2007).
- <sup>6</sup> A popular definition, used in the UK, is the ‘DTI Definition of innovation’ – after the government department (formerly DTI, now BIS) responsible for promoting innovation. This can be summarised thus: ‘the successful exploitation of new ideas’. On the face of it, this does not limit attention to commercial exploitation, but as a government department for business and industry, it is unsurprising that their main focus is on business innovation.