

Discontinuous innovation – step changes

Occasionally, something happens in an industry that causes a disruption – the rules of the game change. This has happened in many different industries: for example, telephone banking and internet banking have caused huge changes for the banking industry. Likewise, the switch from photographic film to digital film changed the landscape in that industry. And the music industry is still grappling with the impact of downloading as the dominant way to consume music. These changes are seen as not continuous, that is **discontinuous**: the change is very significant (see Figure 1.8). Sometimes this is referred to as disruptive innovation. Schumpeter referred to this concept as creative destruction.

The term disruptive innovation as we know it today first appeared in *The Innovator's Dilemma*. In this book, Clayton Christensen investigated why some

¹ General treatments of the role of LMT firms and industries are given in Von Tunzelmann and Acha (2005), Sandven et al. (2005) and Robertson and Patel (2007). Hirsch-Kreinsen et al. (2006) report on a European Commission study of LMT sectors.

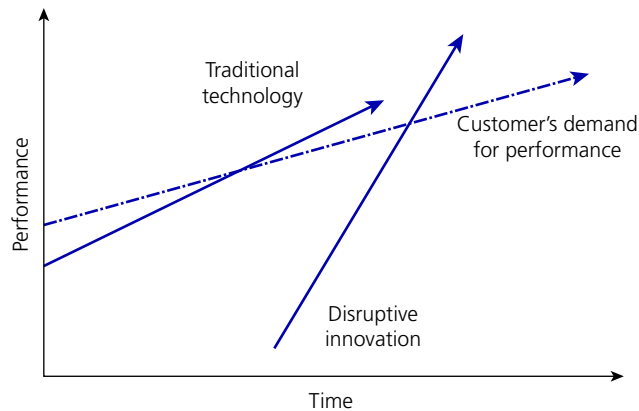


Figure 1.8 Disruptive innovations

innovations that were radical in nature reinforced the incumbent's position in a certain industry, contrary to what previous models (for instance the Henderson–Clark model) would predict. More specifically, he analysed extensively the disk drive industry because it represented the most dynamic, technologically discontinuous and complex industry one could find in the economy. Figure 1.8 shows how a disruptive innovation creates a step change in performance.

This very same pattern of disruption can be observed with video rental services, department stores and newspapers. The appearance of online news services, web portals and other media platforms, such as blogs and wikis, clearly represent a disruptive innovation for the traditional newspaper industry. Will the likes of *The Times*, *The Guardian* and the *New York Times* be able to survive such disruption? For many years, newspapers embraced the web and provided content online, but sales of newspapers continued to decline. A key question for the industry is: What indispensable roles can we play in the lives of the consumers we want to serve?

Other examples of disruptive innovations are:

- steamships (which disrupted sailing ships);
- music downloads (which disrupted CDs); and
- internet shopping (which disrupted high street retailing).

Discontinuity can also come about by reframing the way we think about an industry. Later in this book, Table 15.3 shows a wide range of new services that also created new business models. This includes online gambling and low cost airlines. What these examples – and many others – have in common is that they represent the challenge of discontinuous innovation. How do incumbent firms cope with these dramatic shifts in technology, service and/or the business model?

What many firms would also like to know is how they can become the disruptor or radical innovator. In a study of radical innovation in the highly innovative motor-sport industry, Delbridge and Mariotti (2009) found that successful innovators:

- engage in wide exploratory innovation search activities, looking beyond their own knowledge base and domain of expertise;

- identify the advantages offered by new combinations of existing knowledge, through the application of technologies and materials initially developed elsewhere;
- often partner with unusual firms, beyond the usual sphere of collaboration;
- engage with partner companies to establish a close working relationship;
- promote lateral thinking within an existing web of partners.