

Book review

The Disruption Dilemma, J. Gans. MIT Press (2016)

Technological innovations impart greater efficiency in the production of goods and services thereby facilitating an economy to shift to a higher production frontier, given the same amount of resources. In economic theory, technology therefore is seen as an important factor contributing to productivity and growth. In the world of today, technology – especially digital technology – has revolutionized the way we live. Emails have replaced handwritten letters, e-books and online journals have replaced their physical printed versions, compact disks and online channels have replaced video/audio cassettes, digital cameras have replaced polaroid ones – shifts that have been a ‘consumption response’ to the innovations on the ‘production’ side. Digital revolution has brought down average transaction costs to almost nil. It is the very reason why all manual procedures – be it in industrial manufacturing, security services, or even trade – are being replaced by electronic ones, to reduce the time and cost of conducting activities and bring in efficiency. Thus, the macro picture indicates a rosy outlook towards technological innovations. However, the very shift to a higher frontier goes hand in hand with “disruptions” in the prevailing production processes. Such micro-level disruptions occur at the level of manufacturing firms wherein successful new entrants cause incumbent firms to undergo massive changes in their organizational structure and product development to keep up with the market trends – from the production i.e. supply, and consumption i.e. demand sides. Incumbents unable to keep up with technological innovations end up going out of business.

A book titled ‘*The Innovator’s Dilemma*’ by Clayton Christensen, written nearly twenty years ago, explored this very facet of ‘innovation as a risk’ which established firms faced. However, this was when digital technology was only being introduced to the world. The book by Joshua Gans ‘*The Disruption Dilemma*’ revives the debate on technological innovations, by drawing on the experiences of firms during the digital revolution of the last twenty years; to present an ‘extended’ theoretical framework for the businesses of today to understand and manage disruptions. The dilemma lies in the uncertainty of an ‘untested’ technology succeeding, the real ‘source’ of disruption, as well as the choice of appropriate methods for dealing with such disruptions in a particular context.

In Chapter 1, Gans presents an illustrative introduction to the notion of disruption by explaining how Britannica’s Encyclopaedia lost out to Microsoft’s digital encyclopaedia, Encarta, which in turn lost out to Wikipedia – the online encyclopaedia. Though Encarta and Wikipedia emerge as ‘disruptions’; the ‘real disruption’ was rather the advent and growing use of computers and internet. Gans goes on to succinctly define disruption in Chapter 2 as a phenomenon which “a firm faces when the choices that once drove a firm’s success now become those that destroy its future”. Entry of a new product or technology which causes existing successful

firms to struggle therefore becomes the “disruptive event”. The phenomenon is illustrated through the experience of a popular video/DVD rental firm “Blockbuster” which continued with its business strategy of physical retails only to have been overthrown by postal DVD rentals and online movie streaming by Netflix. In these instances, disruption lay in not just the fact that the new technology turned up successful, but also that the incumbent was unsuccessful in changing the design and delivery of their product.

The process of disruption is further explicated in Chapter 3 using the *theories of disruption* from the *demand* and *supply* side. The former was proposed by Christensen wherein disruption is associated with new entrants bringing in more cost effective product innovations; while their gradual success among *new consumers* sends the incumbents focusing only on *traditional customers*, out of business. The latter¹ on the other hand involves disruption due to constraints – in know how, path dependency, and resources – faced by the incumbents in adopting new technologies, from an organizational and product design perspective. Therefore, while Apple’s iPhone would *not* be considered a disruption in mobile technology as per the demand-side² theory, it sure appears one from the supply-side.

Not only is arrival of a new technology unpredictable; but it is also uncertain if the technology would end up becoming successful, and therefore disruptive. Chapter 4 therefore discusses the unpredictable nature of disruptions and the importance of *insulation mechanisms/key assets* a firm must adopt so as to be ‘in-disruptive’. The typesetting industry comes under this category, having survived technological changes in print machinery on the premise of their proprietary fonts. Chapter 5 builds upon this unpredictability to examine how firms can *react* to demand-side disruptions – through heavily investing³ in new technology or acquiring⁴ new entrants – both of which lead to costly ‘replacement’ of existing products, but can help forestall demise. However, being under constant threat of supply-side disruptions, firms may rather prepare themselves to deal with threats *proactively*, in the sense of consistently building competencies. These proactive methods are explored in chapters 6 and 7.

In order to succeed, firms need to be forward looking and adaptive to changing business environments. While many set up ‘independent units’ to experiment with new technologies when continuing with business as usual; others adopt ‘integrated organizational structures’ under which the entire business is subject to constant change to keep up with latest product innovation

¹ As proposed by Rebecca Henderson; Christensen’s colleague at Harvard.

² The phone was not introduced cheaper than the existing mobile-phones to be disruptive instantly upon introduction; but brought in a wholly new architectural design (rather than any component level change) that became ‘dominant’ to change the face of entire mobile industry.

³ As in the case of Microsoft for developing new internet browser.

⁴ Apple’s acquisition of Siri.

pressures. The superior use of former method emerges from the advocacy of “self-disruption” in Christensen’s book that focused only on demand-side disruptions. However, the downfall of Britannica, IBM and Blackberry despite their prescient management’s set up of *independent innovation units*, suggests that it is insufficient and there are other factors to consider as well. Gans puts forth *integration* as a stronger strategy, which however comes at a higher price – that of continuous reorganization and architectural know-how of products to keep up with supply-side innovations. Although it can cause fall in competitiveness and market leadership; the strategy has empirically proven to be rather resilient in management of disruptive threats from the supply, and those from demand side as well.⁵

Thus far, it may seem that firms need to be choosy as to which strategy they may adopt for themselves to manage disruptions. However, Gans breaks this line of thought in chapter 8 by closely examining the experience of firms in the hard disk drive industry, which instead of any single strategy, choose to combine all – reactivity (both intense investment and acquisition) with proactivity (both management independence and integration) to successfully deal with disruptions.

The book’s primary message is that no firm in today’s world can continue to be complacent with the functioning of its business. Constant foresighted innovation, emphasis towards creating niche products, and being open to new knowledge is the key to survival since an uncertain disruptive event is always likely to be around the corner. This is explicated in the last chapter of the book by drawing on the experience of world’s most successful firm, Apple; which too may *not* be immune to future disruptions.

Presented with all aforementioned *choices*, the answer to the best way of managing disruption still is a dilemma, as it lies with the very firm caught in the storm of a disruptive event. A major takeaway from the book therefore is to be strategic in ‘doing’ business in this unpredictable environment of innovations; and for incumbents to be rational and forward-looking so as to be able turn the ‘game’ of business in their favour.

However, a strategy the book has not explicitly explored is the importance and resilience that may be offered by collaboration and

building linkages in business and manufacturing with other firms around the world; which are likely to lead such firms being more open to technological advancements over those without participation in such global production networks. An interesting method to empirically test and to offer a prospective solution to this “disruption dilemma” may therefore be to examine the changes in the firm composition of the Dow Jones Index in the recent few years; while identifying whether the emergence of new fortuitous firms is due to wholly new technologies (supply side), or improvements/cost-effectiveness in existing technologies (demand side). At the same time, identifying the strategies and global network spread of the firms that have survived to be on the index for all these years could help throw light on the ‘contemporary’ forms of disruptions in today’s globalized world and indicate the probable measures which established and upcoming firms must be ready to take to be resilient to technological threats.

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⁵ Canon’s sustainability lay in constant assimilation of new technologies, even though it lagged in performance. Introducing products in market after other competitors gave it a second mover advantage by learning from the experiences of first movers.