The concept of disruptive innovation has captured the attention of executives around the world. As explained by Clayton Christensen, a disruptive innovation is initially seen as unattractive by mainstream customers and by the leading firms who serve those customers. Eventually, however, those firms lose their leadership positions to new entrants who are willing to develop and improve the innovation in ways that make it more attractive to mainstream customers.

Concerns about potentially disruptive innovations have prompted studies of the speed with which they penetrate established markets. In part, such assessments analyse the degree to which a disruptive innovation depends on the availability of complimentary products, which are designed to be used with the innovation and which play a major role in users assessments of its value. For example, the value of a game console depends on the number of available game software titles. For simplicity, we will refer to these kinds of disruptive innovation as bundled disruptive innovations, because their value depends on the bundle of available complimentary products.

One intriguing example of a bundled disruptive innovation is the e-reader. Many American consumers responded enthusiastically to Amazon’s introduction of the Kindle reader in 2007, in part because, in a relatively short amount of time Kindle customers were able to choose from hundreds of thousands of titles. In contrast, Japanese e-readers introduced both before and after the U.S. Kindle launch received a lukewarm response from Japanese consumers.

One obvious explanation was the relative lack (compared to the US) of best-selling novels and other popular books in e-book form. To try and understand the reasons for the disparity in e-book availability between the U.S. and Japan, we interviewed key figures from both the American and Japanese book industry. Our research revealed a number of interesting insights, which we organise into three categories: organisational, environmental and technological factors.

Organisational factors
In part, the limited availability of e-books in Japan reflected industry perceptions of Amazon’s critical role in the success of the Kindle. Our informants did not believe any single Japanese company could play an Amazon-like role in Japan, in the sense of developing a Japanese e-reader and securing a supply of hundreds of thousands of e-books for that reader. For this reason, publishers and retailers were unwilling to invest large amounts of money developing e-book editions of popular Japanese books.

The availability of Japanese e-books has also been influenced by the interdependence among book retailers, wholesalers, and publishers in Japan. Japanese wholesalers were most likely to be hurt by the introduction of e-books. Publishers and retailers were heavily dependent on the two major wholesalers for sales of paper books. These concerns were amplified by pricing concerns. In Japan, publishers had the legal right to set the prices of paper books, which eliminated price competition for new books. Although the resale price law does not affect the pricing of e-books, Japanese publishers worried about the potential impact of e-book discounting on the performance of wholesalers and other industry players. For this reason, many publishers were reluctant to offer discounts on e-books, despite the success of Amazon’s aggressive discounting in the US.

Environmental Factors

Copyright law has also influenced the availability of e-books in Japan. Since the 1990s, American publishers have typically secured the rights for paper and e-book publication at the same time. In Japan, however, books are often published based only on verbal agreements. Moreover, even with a written contract, authors generally retain the copyrights to their works. As a result, the publication of an e-book edition of a paper book typically requires a separate agreement with the author or authors. One publisher told us that in most cases these agreements must be negotiated in face-to-face meetings. Moreover, concerns about piracy often make authors reluctant to permit the publication of e-book editions of their works. As a result, relative to the US, the process of bringing an e-book edition to market is often more expensive and time-consuming in Japan.

Another factor that emerged in our research involved differences in the perceptions of Japanese and American consumers. Amazon marketed the Kindle as a “library in one’s pocket.” A number of our informants believed that Japanese readers place less value on this benefit because Japanese publishers already sell paperback books in a size that fit easily in a jacket pocket, and book stores are conveniently located within or near major train stations. Japanese publishers believe that e-readers were more attractive to American consumers because they felt less attachment to paper books than the Japanese, who appreciated the quality paper and construction of books printed in Japan.

Technological factors

One example of a technological factor that influenced consumer adoption decisions was the existence of two incompatible file formats, both designed to accommodate unique aspects of written Japanese. As a result, files designed to be read on a Sony e-reader could not be read on a Sharp e-reader and vice-versa. This incompatibility decreased the perceived value of e-readers for many Japanese consumers.

Summary

We believe our research has important implications for firms seeking to introduce bundled disruptive innovations, as well as for those seeking to forecast the rate at which these new market entrants will take share from existing products. Our findings also suggest potential strategies for firms seeking to slow the market penetration of such innovations and for policy makers seeking to promote the adoption of socially beneficial disruptive innovations by encouraging the provision of complementary products.

Notes:
This blog post is based on the authors' paper *The Encroachment Speed of Potentially Disruptive Innovations with Indirect Network Externalities: The Case of E-Readers*, *Journal of Product Innovation Management*, 2017, 32(2): 141-158.

The post gives the views of its authors, not the position of LSE Business Review or the London School of Economics.

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