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Teaching Note: The Crisis at Encyclopædia Britannica

Synopsis

The case begins with a rather bleak event. The leading encyclopedia in the English language, Encyclopædia Britannica, declared bankruptcy in 1996 after losing half of its sales and revenues in the mid-1990s. The organization had to be sold to a new owner in 1996. How did this occur?

This outcome frames the “whodunit” quality of the case. Students must consider how a variety of factors produced this outcome. Then they must grapple with the incredibly difficult question: what could management have done differently, if anything? A lively discussion of these issues can fruitfully teach students to see more deeply into settings where new technology creates potential threats to leading firms.

The sales organization at Encyclopædia Britannica plays an especially interesting role in the story. It was among the most successful commission-oriented door-to-door sales organizations in the world as late as the early 1990s. However, it had a difficult time transitioning to selling electronic-based encyclopedias.

Upon close examination, that is not the only interesting feature of the case. Note that Microsoft explored development of a CD-based encyclopedia early and overcame many challenges before succeeding with a product called Encarta. The technical issues in making the transition from print to electronic format raised numerous challenges for all organizations in the market. As Encyclopædia Britannica made several attempts to develop an electronic format for its products, its technical triumph did not occur soon enough to compensate for declining book sales.

Teaching Objectives

The case teaches students to consider strategic issues in a setting where the diffusion of a new technology has the potential to reduce the market dominance of a leading organization. Specifically, the case asks students to consider the combination of technical, organizational, and marketing factors that shaped the strategic actions and eventual crisis at Encyclopædia Britannica. Depending on the instructor’s preference, the case can introduce or reinforce several concepts typically taught in modules on technological competition.

Position in Course

Among a variety of ways to use this case, I have used it to discuss strategic issues in markets undergoing creative destruction. More specifically, I use it in a course section on “The Reaction of Leading Firms to Technical Change.” In this sense, it pairs well with other cases that examine a leading firm’s strategic response to the spread of a new technology, such as cases about Kodak’s and R. R. Donnelley’s responses to the diffusion of digital technologies.

The case can be supplemented with readings such as Richard Foster, “The S-Curve: A New Forecasting Tool,” *Innovation: The Attacker’s Advantage* (New York: Summit Books, 1986), chapter 4, 88–111; Rebecca M. Henderson and Kim B. Clark, “Architectural Innovation: The Reconfiguration of Existing Product Technologies and the Failure of Established Firms,” *Administrative Science Quarterly* 35, no. 1 (March 1990): 9–30; or the classic George David Smith, “The Bell-Western Union Patent Agreement of 1879: A Study in Corporate Imagination,” in Michael Tushman and William L. Moore, eds., *Readings in the Management of Innovation* (New York: HarperBusiness Press, 1988). Other readings include Richard Foster and Sarah Kaplan, *Creative Destruction* (New York: Currency/Doubleday, 2001), chapter 1; Malcolm Gladwell, “The Televisionary,” *The New Yorker*, May 27, 2002; Clayton M. Christensen, “How Great Firms Fail: Insights from the Hard Disk Drive Industry,” *Innovators Dilemma* (New York: HarperCollins, 2003), chapter 1; and Joseph Bower and Clayton M. Christensen, “Disruptive Technologies: Catching the Wave,” in John Seely Brown, ed., *Seeing Differently: Insights on Innovation* (Boston: Harvard Business School Press, 1997).

I have also written several short articles on the topic for the Institute of Electrical and Electronics Engineers, which I use as supplementary reading. One is entitled “Creative Destruction and Deconstruction,” and another is “Anatomy of a Foresight Trap.” Both can be found on my Web page (www.kellogg.northwestern.edu/faculty/greenstein/index.html).

Case Analysis

One key concept for the case is *attacker’s advantage*. The case illustrates how an advantage might arise from “learning curve” discontinuities in the technical knowledge of those inside an organization. In other words, the sellers of a new format may have a temporary but significant technical advantage over an incumbent seller of a leading product because the learning curve of the older format is largely unrelated to the learning curve for the new format. Hence, to master the new format, an old incumbent has to invest just like an entrant. A new entrant may gain an advantage over a leading incumbent firm when the incumbent does not invest in the new learning curve in a timely manner. In this case, electronic formats for displaying information require a different set of skills than print publishing, and these skills are not easy to put into practice. Hence, this case can motivate a lively discussion about the relationship between the learning curves Encyclopædia Britannica faced in production of books and in production of encyclopedias in other formats.

The case also illustrates another type of attacker’s advantage, one that arises because an incumbent organization cannot change easily. Entrants may design entry strategies that deliberately exploit inflexible features of a leading firm. In this case, Encyclopædia Britannica supported a sales organization where the final sale produced high margins over book production costs. The brand was extremely strong and so was the sales organization. Instructors can ask students to speculate about the feature set an entrant would have to possess to successfully capture some value. Although it is not stated in the case, it is somewhat obvious that direct competitors tried and failed to dent Encyclopædia Britannica’s leadership, so it was likely that

another printed encyclopedia—no matter how good it was—would fail to gain much from the existing leader. That concept can frame a useful discussion about how an entrant can use technology to differentiate itself from the leader. What features would make a new product both different and a substitute, but not easy for an incumbent to imitate? (Because the case lays out what type of answer turned out to work for Encarta, this is not a challenging discussion for students who have read the case, but it is challenging for those who have not. Consequently, having this discussion in class is a device to reward those who come prepared.)

Another key concept is *organizational diseconomies of scope* or, as it is sometimes framed, *organizational conflict between old and new divisions*. Because the managers at Britannica anticipated many difficulties maintaining two sales organizations that used different channel strategies, the company hesitated to develop a second channel for the CD. Encyclopædia Britannica maintained one of the most successful commission-driven organizations in the world. However, electronic formats, either CDs or online, did not easily fit into this existing sales channel, even though the managers tried to make it fit. The question about “fit” frames several issues faced by the managers at Encyclopædia Britannica. They grappled with several attempts to maintain their existing organization while trying also to introduce newly developed formats.

To stress these issues properly, the instructor must walk students through the sequence of choices made by the top managers. For example, rather than develop a new sales channel for its CD which would have produced numerous conflicts with existing sales channels, management tried to use existing channels. This choice led to several compromises—mostly in the pricing of the CD and its bundling with other products—which did not work very effectively for a number of transparent reasons. In this sense, the case illustrates the difficulties of introducing a new product while also maintaining another quite different and ongoing operation in the same organization.

A third concept in the case is *skunk works*, that is, a small project inside a company that explores a new product based on a new technology but remains organizationally distant from its core business. A skunk works usually involves a project important to the future of the company, but it remains hidden from most employees, sometimes with the support of key administrators, such as a CEO or CTO.

The case contains three illustrations: Encarta, Compton CD, and Britannica Online. First, at Microsoft the development of Encarta was a pet project for Bill Gates from the mid-1980s onward as he sought to diversify the portfolio of PC applications the company sold. The unit was given only a small set of resources but a broad and flexible mandate. That arrangement motivated several actions: taking the existing text of a nearly defunct encyclopedia, licensed from Funk and Wagnall’s, and adding numerous video, musical, and visual features to it to make it quite attractive. The resulting product eventually launched to great fanfare in 1993.

At Encyclopædia Britannica, two skunk works are featured in the case. If students ask, instructors can add that both experiments received considerable top management support as long as they remained experiments. It was only during deployment and distribution that the conflicts with the sales organization began to matter.

One was the development of Compton CD, which Encyclopædia Britannica launched before Encarta and which did not do well in the marketplace. The case does not discuss why Encyclopædia Britannica experimented only with Compton’s and not the flagship product, but it is not hard for students to speculate. First, the full encyclopedia was too large to fit on a single CD with its limited memory size in the early 1990s. While the technical restrictions may not have been the only reason, it limited what the firm could develop. Second, the printed books made an

extraordinary amount of money. The firm exercised understandable caution about taking too many risks with something that worked so well in the marketplace. (There were also various other reasons, but these are less essential for the teaching points of case.)

The other skunk works featured in the case is the development of Britannica Online. Like Compton CD, this organization was also given a broad and flexible mandate. The unit, which partially descended from the employees who helped developed the Compton CD, was based in the San Diego area, away from the Chicago headquarters. This experiment successfully went on line in a beta format accessible by a browser in early 1994. Despite the technical accomplishment as well as the positive marketing feedback from libraries and research institutions, success came too late to help the parent company, whose sales crisis was quite severe by 1995. This example illustrates that skunk works are valuable only if their output can be integrated back into the parent company product line in time. Students may speculate about whether Encyclopædia Britannica would have succeeded at selling its online product to households had Encarta not come along. (Though not essential to the case, the question leads to a lively discussion.)

The case can also be used to teach about *managerial myopia* to technological change. Managerial myopia, principally in the top management and sales force relationship, played a very specific and important role in the case. Because myopia is too often used as a sweeping explanation for managerial failure, the case teaches students to isolate precisely where myopia matters and dig deeper into the extraordinarily challenging strategic problems faced by the firm's managers that resulted.

To get this point across, instructors first must stress that the top management at Encyclopædia Britannica was forward-looking in many respects, i.e., not myopic. This point can spark a lively discussion because popular wisdom tends to see Britannica's management as broadly myopic. This is due, in part, to the well-known story—which is recounted in the case—that Microsoft approached Encyclopædia Britannica for a licensing deal in 1985. Upon hearing this story, students have a tendency to let 20/20 hindsight get the best of them and say, "They should have known better." However, the case includes the reasons offered by a manager at Encyclopædia Britannica for turning down Microsoft, and once students review these reasons, they realize that it is hard to find fault with them.

Moreover, even before Microsoft approached Encyclopædia Britannica, the organization was well aware of customer requests for an electronic format and as early as 1983 had developed a response to such requests. (For a dramatic illustration, the instructor might want to go to Robert McHenry's site, as footnoted in the case, and download the official list of talking points developed by the firm in 1983.) From the mid-1980s onward, the firm also took proactive action to develop a CD, bringing one to the marketplace prior to Microsoft. In addition, it developed an online encyclopedia before any other firm in the world. This was an impressive technical accomplishment for the time because the technical issues were extraordinarily challenging—i.e., it was not easy to put all 40 million words of the existing encyclopedia into an accessible electronic format. Of course, technical achievement by itself is often not sufficient for success in the marketplace, and it was not here.

It is obvious that management made some specific pricing decisions about the CD as a result of resistance within its sales organization. This resistance arose from the self-interest of sales managers to maintain their commissions and to maintain their sales force's enthusiastic outlook, which is necessary for continuing success under any environment. The situation illustrates one particular form of myopia: this part of the organization had strong financial interest in pursuing its operational goals in the short run, without considering the consequence for the experiments

that would become the future of the company. Still, those concerns are quite understandable since the sales organization generated substantial revenue and kept the company's bottom line healthy.

Altogether, it is possible to lead a very interesting discussion about managerial strategic choices in the face of threats from new technology. The Encyclopædia Britannica situation frames a good discussion about the difficult strategic conflict the company's top managers faced—between a successful operation in the old format and a strategy for developing a successful new format. The old represented the company's historical success and the most likely path to more revenue in the short run. The new represented the firm's future. Though there were warnings of the impending transition from print to electronic media, the impact on Encyclopædia Britannica arrived rather quickly. There was no easy solution for Encyclopædia Britannica's managers, and if students understand many facets of this situation at the end of discussion, then the instructor has had a successful class.

Epilogue

Despite losing half its revenue in three years and selling to a new owner, Encyclopædia Britannica did not disappear. The organization continued to operate. Its book sales in 2006 were a fraction of their prior peak, but both Compton's and Encyclopædia Britannica continued to be viable businesses, even in printed form. The reason is quite simple: the cost of maintaining and updating an already existing set of text is small. It is possible for the organization to cover these types of costs with a small sales volume. The online version of this organization also has been reasonably successful with subscriptions to libraries and research institutions, but it has not replicated anything near the company's prior household revenues. Students may be familiar with several initiatives by this group, if the instructor wants to indulge in a conversation about it.

Students may also want to discuss what happened to Encarta. As a CD, Encarta did not make much money for Microsoft, which had hoped to make a splashy entrance by giving Encarta away, building an installed base, and slowly increasing revenue through pricing of upgrades and other improvements. Microsoft achieved the splash it wanted and began building a sizable installed base. However, the revenues later did not appear as planned because the Internet arrived before any revenue-generating activity could be instituted at any serious scale. Encarta also transitioned to an online format. While it was a popular site for many years, it did not generate a large amount of advertising revenue for the firm in this format. By 2006 Encarta had lost its leading place among online reference sites to Wikipedia, and once again, an instructor can indulge a conversation as to why, especially if it leads to insight about how format changes have fundamentally altered encyclopedias.

Most students are extremely familiar with the printed version of Britannica and at least vaguely familiar with the online version as well. I often bring in a physical book from the collection just to illustrate. Many students are also familiar with Encarta, but most know it only as a concept, not as an actual product. There is value in illustrating its operations in the classroom, if the instructor can find an old copy. It impressed many reviewers at the time, but by present standards it seems technically primitive. That observation contributes to the lesson that technology alone did not create this situation. Instead, it arose from a combination of circumstances affiliated with a specific technical opportunity, creative initiative, organizational conflict, and market setting.

