CASE STUDY 2.1

Rolls-Royce Corporation

Although the name Rolls-Royce is inextricably linked with its ultra-luxurious automobiles, the modern Rolls-Royce operates in an entirely different competitive environment. A leading manufacturer of power systems for aerospace, marine, and power companies, Rolls's market is focused on developing jet engines for a variety of uses, both commercial and defense-related. In this market, the company has two principal competitors, General Electric and Pratt & Whitney (owned by United Technologies). There are a limited number of smaller, niche players in the jet engine market, but their impact from a technical and commercial perspective is minor. Rolls, GE, and Pratt & Whitney routinely engage in fierce competition for sales to defense contractors

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and the commercial aviation industry. The two main airframe manufacturers, Boeing and Airbus, make continual multimillion-dollar purchase decisions that are vital for the ongoing success of the engine makers. Airbus, a private consortium of several European partner companies, has drawn level with Boeing in sales in recent years. Because the cost of a single jet engine, including spare parts, can run to several million dollars, winning large orders from either defense or commercial aircraft builders represents an ongoing challenge for each of the "big three" jet engine manufacturers.

Airlines in developing countries can often be a lucrative but risky market for these firms. Because the countries do not maintain high levels of foreign exchange, it is not unknown, for example, for Rolls (or its competitors) to take partial payment in cash with assorted commodities to pay the balance. Hence, a contract with Turkey's national airline may lead to some monetary payment for Rolls, along with several tons of pistachios or other trade goods! To maintain their sales and service targets, these jet engine makers routinely resort to creative financing, long-term contracts, or asset-based trading deals. Overall, however, the market for jet engines is projected to continue to expand at huge rates. Rolls-Royce projects a 20-year window with a potential market demand of 70,000 engines, valued at over $400 billion in civil aerospace alone. When defense contracts are factored in as well, the revenue projections for jet engine sales are likely to be enormous. As Rolls sees the future, the single biggest market growth opportunity is in the larger, greater thrust engines, designed to be paired with larger jet aircraft.

Rolls-Royce is currently engaged in a strategic decision that offers the potential for huge payoffs or significant losses as it couples its latest engine technology, the "Trent series," with Airbus's decision to develop an ultra-large commercial aircraft for long-distance travel. The new Airbus design, the 380 model, seats more than 550 people, flying long-distance routes (up to 8,000 miles). The Trent 900, with an engine rating of 70,000 pounds thrust per engine, has been created at great expense to see service in the large jet market. The project reflects a strategic vision shared by both Airbus and Rolls-Royce that the commercial passenger market will triple in the next 20 years. As a result, future opportunities will involve larger, more economically viable aircraft. Since 2007, Airbus has delivered a total of 40 A380s to its customers, with 17 in 2010. Their total order book currently sits at 234 aircraft ordered. Collectively, Airbus and Rolls-Royce have taken a large financial gamble that their strategic vision of the future is the correct one.

Questions

1. Who are Rolls's principal project management stakeholders? How would you design stakeholder management strategies to address their concerns?
2. Given the financial risks inherent in developing a jet engine, make an argument, either pro or con, for Rolls to develop strategic partnerships with other jet engine manufacturers in a manner similar to Airbus's consortium arrangement. What are the benefits and drawbacks in such an arrangement?

CASE STUDY 2.2

Classic Case: Paradise Lost—The Xerox Alto[38]

Imagine the value of cornering the technological market in personal computing. How much would a five-year window of competitive advantage be worth to a company today? It could easily mean billions in revenue, a stellar industry reputation, future earnings ensured—and the list goes on. For Xerox Corporation, however, something strange happened on the way to industry leadership. In 1970, Xerox was uniquely positioned to take advantage of the enormous leaps forward it had made in office automation technology. Yet the company stumbled badly through its own strategic myopia, lack of nerve, structural inadequacies, and poor choices. This is the story of the Xerox Alto, the world's first personal computer and one of the great "what if?" stories in business history.

The Alto was not so much a step forward as it was a quantum leap. Being in place and operating at the end of 1973, it was the first stand-alone personal computer to combine bit-mapped graphics, a mouse, menu screens, icons, an Ethernet connection, a laser printer, and word processing software. As a result of the combined efforts of an impressive collection of computer science geniuses headquartered at Xerox's Palo Alto Research Center (PARC), the Alto was breathtaking in its innovative appeal. It was PARC's answer to Xerox's top management command to "hit a home run." Xerox had profited earlier from just such a home run in the form of the Model 914 photocopier, a technological innovation that provided the impetus to turn Xerox into a billion-dollar company in the 1960s. The Alto represented a similar achievement.

What went wrong? What forces combined to ensure that no more than 2,000 Altos were produced and that none was ever brought to market? (They were used only inside the company and at some university sites.) The answer could lie in the muddled strategic thinking that took place at Xerox while the Alto was in development.

The history of Xerox during this period shows a company that stepped back from technological leadership into a form of incrementalism, making it content to follow IBM's lead in office automation. *Incrementalism* refers to adopting a gradualist approach that plays it safe, avoiding technological leaps, large risks, and consequently the possibility of large returns. In 1974, Xerox decided to launch the Model 800 magnetic tape word processor rather than the Alto because the Model 800 was perceived as the safer bet. During the next five years, a series of ill-timed acquisitions, lawsuits, and reorganizations rendered the Alto a casualty of inattention. What division would oversee its development and launch? Whose budget would support it, and PARC in general? By leaving such tough decisions unmade, Xerox wasted valuable time and squandered its technological window of opportunity. Even when clear indications showed that competitor Wang was in line to introduce its own line of office systems, Xerox could not take the step to bring the Alto to market. By 1979, Xerox's unique opportunity was lost. No longer was the Alto a one-of-a-kind technology, and the company quietly shelved any plans for its commercial introduction.

Perhaps the ultimate irony is this: Here was a company that had made its name through the phenomenal success of a highly innovative product, the Model 914 photocopier, but it did not know how to handle the opportunities presented by the next phenomenon. The Alto was so advanced that the company seemed unable to comprehend its possibilities. Executives did not have a strategic focus that emphasized a continual progression of innovation. Instead, they were directed toward remaining neck-and-neck with the competition in an incremental approach. When competitor IBM released a new electric typewriter, Xerox responded in the same incremental way. The organizational structure at Xerox did not allow any one division or key manager to become the champion for new technologies like the Alto.

In 1979 Steven Jobs, president of Apple Computer, was given a tour of the PARC complex and saw an Alto in use. He was so impressed with the machine's features and operating capabilities that he asked when it was due to be commercially launched. When told that much of this technology had been developed in 1973, Jobs became "physically sick," he later recounted, at the thought of the opportunity Xerox had forgone.

Questions

1. Do you see a logical contradiction in Xerox's willingness to devote millions of dollars to support pure research sites like PARC and its refusal to commercially introduce the products developed?
2. How did Xerox's strategic vision work in favor of or against the development of radical new technologies such as the Alto?
3. What other unforeseeable events contributed to making Xerox's executives unwilling to take any new risks precisely at the time the Alto was ready to be released?
4. "Radical innovation cannot be too radical if we want it to be commercially successful." Argue either in favor of or against this statement.