

1. Give a short account of the history of the company, and trace the evolution of its strategy. Try to determine whether the strategic evolution of your company is the product of intended strategies, emergent strategies, or some combination of the two.
2. Identify the mission and major goals of the company.
3. Do a preliminary analysis of the internal strengths and weaknesses of the company and the opportunities and threats that it faces in its environment. On the basis of this analysis, identify the strategies that you think the company should pursue. (You will need to perform a much more detailed analysis later in the book.)
4. Who is the CEO of the company? Evaluate the CEO's leadership capabilities.

## CLOSING CASE

### Planning for Rise of Cloud Computing at Microsoft

Microsoft is one of the world's largest and most successful computer software enterprises. Its strength is based upon two businesses: Windows, the operating system which resides upon more than 90% of the world's personal computers; and Office, the most widely used suite of office productivity software in the world. These two monopolies generate much of the \$22 billion in free cash flow that Microsoft generated in 2010, and are the major reason for the company's stellar 2010 return on invested capital of 38.57%. Both monopolies are also under threat from the rise of a new computing paradigm known as "cloud computing."

For the last 20 years, individuals and enterprises have stored their data and run their applications on their own computer hardware. Individuals have stored data and installed applications onto their own machines. Enterprises have stored data and installed applications onto their own networks of servers and clients. The vast majority of clients (desktops and laptops) have run Windows. A large proportion of servers have also used the Windows server operating system by Microsoft.

However, with the rise of high bandwidth (very fast) Internet connections, it is becoming increasingly attractive to store data and run applications remotely "*in the cloud*" on server farms that are owned by other enterprises. The largest owners of server farms today are Amazon, Google, and Microsoft. Server farms are vast collections of

thousands of computer servers. Each server farm can cost \$500 million to construct. Data can be stored and applications "hosted" on server farms. Individuals and enterprises can access these server farms to run their applications from anyplace, anytime, so long as they have an Internet connection. The applications no longer need to reside on their own machines. In fact, all that is needed to run applications is a Web browser. In other words, you may no longer need Windows on your machine to run applications that are "hosted" on a server farm. The Windows monopoly is therefore under threat. In the future, an individual using a laptop that is running a non-Windows operating system, such as Apple's OS X, Google's Android, or Linux, could conceivably run applications hosted on server farms through their Web browser.

There are compelling economic reasons why enterprises might want to move their applications to the cloud. First, they no longer need to purchase their own servers and maintain them, which reduces information technology hardware costs. Second, they no longer need to pay for applications upfront; instead they can adopt a pay-as-you-go approach, in the same way that you pay for electricity from a utility company. This is very attractive, since there is good evidence that corporations overspend on applications, purchasing excess software that is rarely used. Third, server farms can balance workloads very efficiently, spreading out application runtime



large numbers of servers in order to optimize capacity utilization. Third, the company started Azure and moved them to the cloud. For example, enterprises can now sign up for Office Live, which is a cloud based version of Office that is run through a Web browser and hosted on Microsoft server farms. Fourth, the company embraced a change in its business model. The traditional business model for most Microsoft applications has required enterprises to pay an annual licensing fee for the number of copies of an application that they install on machines. The new business model is a pay-as-you-go structure for applications like Office Live that are hosted on Microsoft's server farms.

Fifth, Microsoft realized that one of the impediments that corporations face when moving their own customized applications to the cloud is the cost of rewriting the applications to run on a cloud based operating system, such as Azure. To manage this, the company invested in the development of "tools" that would help programmers complete the transition in a cost efficient manner. Finally, Microsoft understood that for security reasons, some enterprises had to maintain control over data on dedicated servers (e.g., regulations require banks to do this). In such cases, Microsoft decided to offer its enterprise customers a "private cloud," which is a collection of servers packed into a container, running Azure, and hosting applications that are dedicated to just that enterprise. Private clouds enable enterprises to gain many of the economic advantages of cloud computing, without moving all data and applications to a "public cloud."

By 2011, the cloud was starting to gain attention. Although it only represented about 5% of the \$1.5 trillion in global information technology spending in 2010, numerous companies were starting to announce their investment in cloud services. In the first quarter of 2011 alone, IBM, Hewlett-Packard, and Dell Inc. all announced their intentions to increase their investments in cloud computing infrastructure and applications. This is an emerging market that is poised for rapid growth in the years ahead. Microsoft hopes that through proactive strategic planning, it has positioned the company to do well in this new environment.<sup>50</sup>

From numerous customers, thereby optimizing capacity utilization (in contrast, most enterprises must have enough servers for peak load periods, meaning that most of the time they have excess capacity). This means that server farms can run applications at lower costs, and some of those cost savings can be passed onto customers in the form of lower prices. Microsoft first recognized the potential importance of cloud computing in 2006–2007. At that time, the business was tiny. However, through its environmental scanning, Microsoft quickly realized that over time, the economics of cloud computing would become increasingly attractive. The company's strategic managers also understood the negative implications for their Windows business. The introduction of Google apps in 2008 undermined this. Google apps is a collection of Office-like software, including Word Processing, spreadsheets, and presentation software, that is hosted on Google's server farms, and that enterprises and individuals can access and run through a Web browser. You don't need Windows to run Google apps, and moreover, Google apps represent a direct threat to Microsoft's lucrative Office business.

Microsoft saw the rise of cloud computing as both a threat to their existing business, and an opportunity to grow a new business. The company decided that it had little choice but to aggressively invest in cloud computing. Moreover, the company realized that it had several strengths that it could draw upon in order to build a cloud computing business. It already had built server farms to run its search, X-Box live, and Hotmail businesses, so it knew how to do that. Many enterprises that used Microsoft applications would likely want to continue using them on the cloud, which gave the company an inherent advantage. The company had a significant cash hoard that could be used to finance investments in cloud computing, and, had a wealth of software talent that could be used to write applications for cloud computing.

Beginning in 2008, Microsoft charted out a strategy for cloud computing. First, the company made heavy investments in large-scale server farms. Second, the company developed a new operating system to run applications on the cloud. Know as "Azure," this operating system is specifically designed to distribute workloads across



### Case Discussion Questions

1. If Microsoft does not build a cloud computing business, what might happen to the company over the next decade? Why did the company decide that it had little choice but to invest in cloud computing?
2. The case talks about Microsoft's strengths, which might help it to build a cloud computing business. It does not talk about weaknesses. Can you think of any weaknesses that the company might have?
3. How does the business model for cloud computing differ from the traditional business model used by companies such as Microsoft? What are the implications of this new business model for Microsoft's future financial performance?
4. To develop its cloud computing business, Microsoft implemented a self-contained unit within its organization dedicated to that task. Why do you think that it did this?
5. Cloud computing is still in its infancy. If business history teaches us anything, it is that events often do not turn out the way that planners thought they would. Given this, might it have been better for Microsoft to adopt a "wait and see" attitude? What would have been the benefits of delaying investments? What would have been the costs?