Microsoft’s plan, announced Friday, to replace Steven A. Ballmer as its chief executive does not exactly follow — at least to people outside the company — the way they draft these things in business school.

But Mr. Ballmer and Microsoft’s board have been considering the possibility of his retirement for some time. Still, because of Mr. Ballmer’s larger-than-life personality, the board’s reluctance to push back and the company’s recent product and financial problems, finding a new chief executive for Microsoft was never going to resemble a cut-and-dry, business-school case study, according to people with knowledge of the company.

“No one is an obvious candidate,” said Michael A. Cusumano, a professor of business and engineering at the Massachusetts Institute of Technology who studies strategy in the computer software industry. “All the really interesting people who were in the company over the last dozen years who might have been have left. I also find it hard to imagine they could bring an outsider in. Microsoft is known for having quite a lot of powerful groups within the company and they make life very difficult for anyone who tries to oversee them.”

Succession planning is a delicate issue for many companies, particularly one like Microsoft, where Mr. Ballmer has been a senior employee since 1980 and chief executive since 2000, and his longtime friend, Bill Gates, Microsoft’s co-founder, remains chairman.

“Particularly for a person like Ballmer, who really is one of the founders, leaving is almost like death, so it’s extremely difficult to have an orderly process,” said Joseph L. Bower, a professor at the Harvard Business School. “It requires a very grown-up relationship between the chief executive and his board.”

Industry insiders almost immediately began to place bets on which executives inside and outside Microsoft — and even outside the technology industry — could be tapped. The decision will go a long way to determining whether Microsoft will successfully transition to tech’s future of mobile
computing and computing in a virtual cloud of data-storage devices.

But at the moment, at least, the betting cards are virtually empty.

Even though Mr. Ballmer had indicated he was going to retire when the youngest of his children went to college, which was in about two more years, “I think people thought Ballmer would maybe die with his boots on in that role,” Mr. Cusumano added.

Developing a succession plan is one of a board’s chief responsibilities, but only half of companies actively groom executives, according to a 2010 study by Stanford University’s Rock Center for Corporate Governance and Heidrick & Struggles, the executive search firm that is leading Microsoft’s search. Boards spend only an average two hours a year on succession planning, the study found.

“When you have such strong personalities as Gates and Ballmer, is the board really proactive with them, or is it more of a caretaker board?” said David Larcker, director of corporate governance research at Stanford University’s business school, who worked on the study.

Though it might not be obvious outside the boardroom, Microsoft’s directors have been planning the transition, according to a person briefed on the board’s meetings who was not authorized to speak about them publicly.

Discussions have been happening for a decade, the person said, and intensified in 2010. Several months ago, Mr. Ballmer suggested to the board that it was time to begin a formal succession process, the person said, and told directors on Wednesday that he would announce his retirement.

Mr. Ballmer and the board have discussed the attributes they want in the next chief executive and have been appraising internal and external executives who might be candidates. Over the last 18 to 24 months, Mr. Ballmer has personally met with several outside executives, including people outside the tech industry with experience transforming very large companies, according to the person knowledgeable about the board’s work.

“This is not a company which is in a panic because there’s not a succession plan, looking for a Lou Gerstner type to come parachuting in when I.B.M. was at death’s door,” said Jeffrey Sonnenfeld, president of the Chief Executive Leadership Institute at the Yale School of Management. “He’s had a great tour of duty and financial performance.”

Even so, Microsoft analysts said one weakness of Mr. Ballmer’s hard-charging personality and
leadership style had been to drive away deputies who might one day succeed him.

“Ballmer is larger than life, and I think it’s been difficult for other people to really rise up and have a noticeable public role,” Mr. Cusumano said.

For instance, Steven Sinofsky, who ran the Windows division, left last year after growing friction with Mr. Ballmer and others, and this week announced that he had joined the venture capital firm Andreessen Horowitz. People who know him said his contentious departure from Microsoft made it very unlikely he would return.

Other former Microsoft executives could return, analysts said, including Paul Maritz, chief executive of VMware until last year; Stephen Elop, chief of Nokia; Kevin Johnson, chief of Juniper Networks, who has announced plans to step down; Jeff Raikes, chief executive of the Gates Foundation; and Chris Liddell, former chief financial officer of Microsoft and G.M.

Current Microsoft executives who could be contenders include Tony Bates, former director of Skype and now executive vice president of business development and strategy, and Satya Nadella, executive vice president of cloud and enterprise.

Speculation by analysts and executives about external candidates included Sheryl Sandberg, chief operating officer of Facebook; Reed Hastings, chief executive of Netflix and a former director at Microsoft; Scott Forstall, who ran iOS at Apple until last year and John Legere, chief executive of T-Mobile.

The new chief executive, analysts said, must be someone who lives and breathes new consumer technologies like mobile, can speak technical language to Microsoft’s engineers and has a track record transforming a large company.

“Steve likely recognizes it’s really time to bring someone in whose heart and soul is really devoted to the different world we have around us, not the world of PCs and laptops, which is Microsoft’s world,” Mr. Cusumano said.

Nick Wingfield contributed reporting.

This article has been revised to reflect the following correction:

Correction: August 27, 2013
An article on Saturday about the leadership of Microsoft after the departure of Steven A. Ballmer, its longtime chief executive, misspelled the given name of the president of the Chief Executive Leadership Institute at the Yale School of Management, who commented on the matter. He is Jeffrey Sonnenfeld, not Jeffery.