PART

IV

Information Systems in Decision Making

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Case IV: Ross Venture Capital Fund

Dan Oliver entered a two o'clock meeting with 11 of his fellow financial managers. Also present was their boss, Albert Ross, founder and president for 50 years of the highly respected Ross Venture Capital Fund (RVCF). Ross, 85 years young and still the intellectual guide of RVCF, had called the meeting to ask Oliver to share his "big idea" with some key people. Just two weeks before the meeting, Oliver had approached Ross with the suggestion that RVCF develop a computer-based decision aid, which he envisioned as a software program that embodied Ross's investment history, his thinking, and his analysis, to allow company managers to consider an investment and analyze it as Ross would. Everyone knew Ross was the heart and soul of RVCF, guiding its strategy by providing the final word on every investment decision. Oliver asked Ross to consider the possibilities for the company if every investment manager could have a "Ross" on his or her desk. Oliver was stunned to find Ross—who was otherwise stern and forbidding—to be affable and quite open to the idea. Ross even joked that if Oliver's idea worked and they could create a program that would make the same decisions Ross would, then maybe the Old Man could retire early (at the sprightly age of 85, that is). Ross called the two o'clock meeting to follow up.

Expecting Ross to introduce the idea and show his support, Oliver was surprised to find Ross asking him to run the meeting. Within minutes of starting his presentation, he felt completely isolated and surrounded by the enemy. The other managers in the room responded badly. They felt threatened and angry. They didn't want to spend time on "unproductive" projects and didn't want to think of their judgments as being programmable. Starting that day, Oliver became isolated from his colleagues. The other managers would come to see the benefit of Oliver's idea. But it would be a long time until Oliver felt good about his work again. Ross was an old-timer who didn't know much about the technology Oliver was talking about, but he was too curious to dismiss it despite the negative reaction. It was not part of Ross's personality to let an idea die just because some of Ross's managers were uneasy with it.

The Venture Business

Over the previous two decades, RVCF had funded dozens of start-up companies, providing from $10,000 to $20 million to each one. As is so common in venture businesses, RVCF provided the funds in exchange for shares of the newly established company. Whenever RVCF was the only provider of funds, it insisted on receiving at least 51 percent of the new company's shares, to maintain control. However, it rarely interfered in the daily running of a new company. Like most venture capital firms, RVCF approved less than 1 percent of the funding requests they received, and often shared the funding with other venture capital firms. In fact, the willingness of other venture firms to participate in an investment often plays a role in a firm's decision whether or not to back an idea.

Unlike most venture capital firms, which specialize in narrow fields of interest, RVCF's 75 investment managers specialized in funding a variety of ventures in a wide range of fields, including pharmaceutical industries, food and beverage industries, entertainment industries, computer hardware and software developers, and, as of 1995, Internet companies.

Oliver was making an excellent reputation for himself as a specialist in high-tech and Internet ventures, which is how he came to learn about decision-support systems, software designed to assist managers in their decision making based on information. The idea of bringing a technology he was researching into his job brewed for about six months before proposing the "Ross" to Ross.

Lines Are Drawn

It was only two weeks after his first meeting with Ross that Oliver presented the idea to his colleagues. There were only three other people in the room who said they thought Oliver's idea was good: Brian Lassiter, Jennifer Amanpour, and Jackson Hunter. But as the discussion continued, the three were intimidated by the skepticism of their peers, and their enthusiasm waned. Of the remaining eight managers in the room, Jake Albert and Nancy Lippman were the loudest and most deriding of Oliver. They sniped at him, "So, you want to teach a computer to do our jobs? How exactly will that work? I've heard horror stories of people depending on their systems to think for them, only to make choices they don't even understand."

The discussion was tense. Several times, Oliver glanced at Ross for support, but he kept his mouth shut. Oliver wasn't sure: was Ross withdrawing his support? Was he testing Oliver's resolve? Even as Oliver explained the great efficiencies his colleagues could gain, he saw that they feared their experience and expertise were going to be replaced by a machine.

The meeting, which was originally allotted 30 minutes, lasted almost an hour. When Ross eventually opened his mouth, he tabled the idea for future discussion. Oliver looked over at him and thought he saw a slight smile; certainly Ross seemed relaxed, even amused. But Oliver felt as if he had been in a battle and was seriously considering abandoning the idea to avoid further friction with his colleagues.

Oliver learned a lot about Albert Ross in the weeks and months that followed. The first lesson he learned was that there was no walking away from an idea once Ross was interested. Oliver never expected to find himself in this position: after being at the company for only five years, he had had the audacity to suggest that Ross Venture Capital Fund should consider changing its approach to investment decision making, after 50 years of success. Oliver really wasn't sure why he was risking his reputation.

An Idea Evolves

Oliver was confident a program could be developed to mirror Ross's thinking because he had spent five years carefully observing how Ross—and, indeed the entire staff at RVCF—operated. While specialists were given latitude on how they analyzed their ventures and what analytical tools they used, no funding went through without Ross's final approval. At each decision meeting, managers presented their proposals and recommendations, and Ross asked questions and made judgment calls. Here is some of what Oliver observed at the decision meetings:

- There were certain routine analyses that were always included in every proposal, including determining macroeconomic indexes (those dealing with an entire industry) and ratios specific to the business being considered for funding. The latter included mainly forecast ratios such as inventory turnover, sales volume per employee, and the most important one: return on investment over the next five years
- Old Man Ross virtually never accepted a proposal on its first submission. He always asked for something more. He sometimes asked just a few questions a manager could answer on the spot; sometimes he asked for additional complex analyses to be conducted. Sometimes his suggestions seemed out of context, but when pursued by the manager, they always proved to be relevant.
- Ross had a series of general questions he always asked the managers, regardless of the venture project's industry. When he was satisfied with the answers to these general questions, he posed another series of questions specific to the business idea and industry. Oliver noticed that satisfactory answers to the "general" questions usually yielded a wise funding decision not only in industries with which Ross had experience, such as food and pharmaceuticals, but also in newer ones, such as online ventures.

Oliver couldn't get these observations out of his mind. He started talking about his take on what he called "the Ross Process" with his friends; he described the dynamics in the room during an investment meeting. In addition to the two or three managers who dealt directly with a funding request, Ross always invited another three or four managers to each meeting. Ross expected the latter to play the devil's advocates against funding the proposed venture.

Ross was able to distill every piece of information provided and cull out the most significant factors. That was the germ of Oliver's brainstorm: the Old Man wasn't going to be around forever. The firm needed to capture his expertise, if he let them.

Meeting Intellicision

Ross e-mailed Oliver about one week after the meeting with his colleagues, saying that he remained intrigued and wanted Oliver to explore his idea further. He asked Oliver to write a request for a proposal, which would allow software developers to bid on creating the "Ross." Ross knew the subject was creating tension among the staff, but he didn't give Oliver a chance to object. Ross also said he wanted a demonstration within one month of a decision-support system from one of the consultants Oliver was planning to contact.

Oliver submitted his request for a proposal to three companies and chose Intellicision, an industry leader specializing in developing computer-based decision aids. Intellicision's president, Mallory Johnson, had started her company 10 years ago. With an MBA in finance, a Ph.D. in industrial psychology, and eight years as an analyst at one of the largest investment houses on Wall Street, she had seen an opportunity in developing systems that streamlined investment decision making. She had helped banks, mutual fund managers, and financial planners create decision-support systems. The systems varied. Johnson explained that the type of system in which Oliver was interested—which involved creating models from experts' knowledge—was called an *expert system* and was the most challenging to develop. Expert systems had to be built from scratch, without much chance of using prior software that the company already may have developed from generic rules used widely in the industry.

Johnson warned Oliver not to overpromise what that type of system could deliver. And she warned that Ross might not be prepared for what was needed on his part to create the system.

Show Me

Johnson created a proposal that outlined step by step how her company's knowledge professionals would gather information from all the fund managers, create a basic underlying system, and then immerse themselves in Ross's thinking. Ross was impressed with Johnson's description of the process. As the final step in getting chosen for the project, Johnson was scheduled to meet Ross and show him a demonstration program.

Most Intellicision Systems projects were proprietary, so Johnson didn't have a lot of programs she could share with Ross. She brought a medical diagnostic system, MedEx, which used decision-support technology similar to the type that would be used by Ross. At first, Ross couldn't see the connection between MedEx and this future system. But Johnson explained that both processes—diagnosing a suite of symptoms in the human body and trying to analyze the fund-worthiness of a risky venture—consist of similar considerations of unstructured information and rules. In both cases, someone is trying to absorb a vast amount of information, all the while trying to determine what is important, what is irrelevant, what questions to ask next, how to interpret the available information, and what further information is needed.

Ross sat down with MedEx. He was presented with a series of questions, with possible answers as well as an option to fill in his own. The questions started by allowing the user to identify the symptoms the patient was experiencing; then some basic diagnostic data was requested, including temperature, blood pressure, and blood counts. Then, Johnson showed Ross how the system asked the user to identify the relative importance of different symptoms. Eventually, the system presented three possible diagnoses, ranked with their corresponding probabilities, the highest ranked with a probability of 85 percent.

Impressing Ross

Ross was quite impressed. He approved the use of Intellicision to develop the "Ross." He requested a production schedule and included in the contract the ability for either party to terminate the project with 30 days' notice. Johnson knew it would be months before she actually worked with Ross again, after all the funding managers were interviewed and their input was used to create a prototype of the basic part of the system. Johnson was very pleased to have the project and turned to Oliver to thank him, expecting him to feel the same. Oliver didn't know if he was pleased or not. On the one hand, he had to face his colleagues every day, and he knew they were not happy with him. On the other hand, his risk put him in Ross's office working on a very exciting new project. The project might go bust, or it might be the most important move RVCF had taken in many years.