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SAS INSTITUTE:

A DIFFERENT APPROACH TO INCENTIVES AND PEOPLE MANAGEMENT PRACTICES IN THE SOFTWARE INDUSTRY

Jim Goodnight, one of the co-founders and currently the chief executive of the SAS Institute, and David Russo, his vice president for human resources, were considering the challenges facing the company. SAS Institute, a large and successful software firm, faced an increasingly competitive job market and, because of its ongoing growth, the need to recruit a talented work force that could help it build and maintain its intellectual capital. But, over the years, SAS Institute had developed a culture and set of practices, particularly around issues of outsourcing, recruiting, compensation, and benefits, that really differentiated it from virtually all of its competitors, particularly those in the Silicon Valley. The question facing Goodnight and Russo was simple: could and should the Institute maintain its unique approach to pay and other practices? And if it did so, could it reasonably expect to continue to thrive in a world in which software talent was a scarce commodity? To answer that question, they had to consider to what extent SAS's success had been because of its management philosophy and practices, or to what extent it had succeeded in spite of those practices because of its being in the right place at the right time in the development of the software industry.

COMPANY BACKGROUND

SAS Institute was founded in 1976 by Dr.James Goodnight and three other colleagues, Anthony Barr, Jane Helwig, and John Sall. The original product of the Institute was designed to perform statistical analyses of data from, for instance, agricultural experiments. Goodnight, the son of a hardware store owner, helped pay his way through college at North Carolina State by moonlighting as a programmer.

This case was prepared by Professor Jeffrey Pfeffer as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

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In 1966, halfway through his master's program in statistics, he left school to work for General Electric in Florida, which was a subcontractor on the Apollo space program. Although the job was great and it was exciting to work on the program to send the first men to the moon, the work environment left something to be desired and helped to shape his view of management:

"We had guards at the door every day...We had to sign in. You'd go down the hall and put your quarter in the machine and get a cup of coffee out. A lot of these things I found somewhat offensive."

After returning to school, Goodnight received his Ph.D. in statistics from North Carolina State University in 1971 and stayed at the university to work on the SAS System on a soft-money (outside funded) position. When the money ran out, Goodnight and his three partners were told they could stay at the university but they would have to pay their own salaries. Instead, they reached an agreement with the university to obtain the rights to the SAS System in return for providing N.C. State with free upgrades of the software. Thus was born SAS Institute, today located in Cary, North Carolina, near Raleigh and in the Research Triangle area of the state. The company was cash flow positive from its inception because there was an existing product with an existing user base of about 100 outside customers. Consequently, SAS never needed to attract venture capital funding, has no debt (and except for a mortgage on its first office building, has never had any), and has never gone public.

One of the co-founders, Anthony Barr, sold his 40% stake in the company for less than \$340,000 in 1979. Jane Helwig left to found a software company, Seasoned Systems, with her husband, and subsequently decided to go to medical school. She now practices obstetrics/gynocology in Franktown, Virginia, on the eastern shore. Currently her stepsons, Mark and David Helwig both work at the Institute, so there are still strong Helwig ties to SAS. Today, Goodnight owns two-thirds of the company and the other remaining co-founder, John Sall, owns the other third.

Because SAS is private, information on its finances, particularly its profitability, is closely guarded. Exhibit 1 presents information on sales revenues for the past ten years. SAS Institute is currently the largest privately owned software company and the ninth largest independent software firm in the world. *Forbes* claimed that the company was probably conservatively worth at least \$3 billion, which would make Jim Goodnight with his two-thirds stake the richest man in North Carolina.

SAS Institute's organizational structure is both flat and informal. A request for an organization chart brought the reply, "we don't have one." Exhibit 2 gives a sense of how the company is organized by showing the 27 units that report directly to Dr. Goodnight.

Over the years, the SAS System has expanded to become a 25-product system for data warehousing, data mining, and decision support. One SAS person noted that the original statistical analysis package that was the foundation of the company today contributes only about 2% of the total revenue. The company today has 40 sales offices in the United States and 68 offices around the world, as well as using licensed distributors in several other countries. Ninety-seven percent of the *Fortune 100* companies use SAS as do more than 80% of the

Sharon Overton, "And To All a Goodnight," Sky (Delta Airlines Inflight Magazine), October, 1996.

Fortune 500. As of late 1997, SAS had more than 8,000 customers and 31,000 customer sites throughout the world.

The company currently has about 1,000 people doing development work. There is some development in Austin, Texas and in some foreign offices, but 98% of the new product development is done at corporate headquarters. The company's product strategy is quite broad and long-range planning is eschewed. Jim Goodnight believes that the industry is moving too fast and, as he puts it, "I'm not as much of a visionary as Bill Gates, so I can't tell where the industry is going." The company has six regional users' groups in the U.S., one international, and a dozen country users' groups, and sponsors a number of large user group conferences worldwide each year. And, each year it sends each of its customers a "ballot" asking what features the customer would like to see. From tabulating the results of that ballot, and from having hundreds of SAS Institute people mix with thousands of customers at the user group conferences and bringing back customer feedback, the Institute develops insights into what the customers want and these insights guide the product development process. The company will also actually bring customers to Cary to get feedback on new products and new versions of the software as they are being developed. Jim Goodnight noted:

Listen to the customers. Give them the software they want. There is no reason to develop software they don't want...Once a project is underway, we'll have a few of our customers come in that we know are interested in a particular area and have meetings with them and have them test the software that we've developed so far and have them take a look at it and give us feedback and suggestions...if we could make the product fit the needs of half a dozen companies through these strategic partnerships, it will pretty well fit the needs of other companies as well.

Several people saw this customer-driven development process as one of the keys to SAS Institute's success. The company also tries to provide an exceptionally high level of service.

In commenting on the strategy for SAS Institute products, Goodnight noted that the company would not turn down a product idea if it seemed to be a good one, even if it didn't tightly fit the existing product line. Currently, the firm is developing video games and is moving heavily into educational software, for instance. Products such as educational software are internally incubated—not developed by acquiring companies that already have an existing product. This provides an opportunity for people at the Institute to work on new ideas and in new domains, one of the rewards the company offers. SAS Institute also has an active publications program. In addition to publishing and selling its own users' manuals and guides, the company publishes books on using SAS written by users who aren't SAS Institute employees, an approach to being a publisher that is relatively unique in the software industry.

SAS Institute's business model is also fairly unique in the software industry. Rather than selling a product and then selling upgrades on a regular basis, SAS offers an annual licensing arrangement after a thirty-day free trial period that provides for free upgrades and customer support. The initial first-year outlay is lower than if the system were sold outright, but over time, revenues from a given customer will be higher, as long as the customer renews the licensing agreement. SAS's customer renewal rate is over 98%. David Russo commented that the

company, and Jim Goodnight, want the software everywhere. "If it's a choice between making X dollars per sale and having more people have the software, he would rather have the software everywhere. He [Goodnight] thinks that there is no reason that any midsized or large enterprise shouldn't be using SAS. They should be using SAS for everything. So his perspective is, it should be out there. And as a result, he'll try anything." As a consequence, the firm will trade off margins in the short term for greater levels of market penetration. The firm also has had a number of aborted product development efforts. The company talks about "the holes." Russo continued:

Have you ever heard us talk about the holes? He [Goodnight] says that he's dug a lot of holes. The only smart thing is knowing when to quit digging...We don't know if it's going to make a lot of money for the company, or not. But the technology out there is exciting and it might turn into something. Go for it.

SAS Institute has no single competitor that provides the range of software products that it does, but in segments of its business it competes with companies such as SPSS offering statistical analysis and graphics packages, vendors of decision support and graphics software, and data base management companies. Its competitors in various segments of its business include Oracle, Sybase, Thinking Machines, and Microsoft, although for specific parts of the SAS System, some of these competitors are also business partners. SAS Institute's advantage is its level of integration and the range of its product line. Although originally running only on mainframes, today SAS applications run on midrange computers, workstations, and personal computers as well as on a variety of mainframe platforms. The company is also exploring using the internet for its applications. SAS spends more than 30% of its revenues on research and development, about twice the industry average. Today SAS employs more than 5,000 people, about 2,500 of whom work at corporate headquarters in Cary.

The comparison with SPSS is particularly revealing. SPSS was founded in the late 1960s by three Stanford University graduate students. SPSS incorporated in 1975 (one year before SAS) and set up its headquarters in Chicago, which is where it is still located. In August, 1993, SPSS went public. SPSS was also originally to be found only on mainframes, and migrated in the 1980s to a personal computer operating environment and, more recently, to a Microsoft Windows operating environment. In 1996, desktop revenues were almost 80% of total revenues. SPSS offers a line of scientific data analysis and graphing software, process documentation, and various management products. Although its origins in a university were similar to SAS, as was its product focus on statistical analysis software, the growth of the two companies has been quite different. In the fiscal year ended December 31, 1996, SPSS had revenues of \$84 million and employed 535 people. That year, it spent 16% of its revenues on research and development.

PEOPLE POLICIES

SAS is a knowledge-based business with continuing requirements to evolve and upgrade its software product offerings. Thus, the attraction and retention of talent is a key factor in the company's continuing success. In an industry, software, characterized by high turnover, SAS Institute's is certainly among the lowest in that industry—less than 4% annually.

Philosophy

Jim Goodnight claims that he has no philosophy or grand plan that guides the Institute's operations. Rather, there are some simple premises or principles that guide day to day decisions and behavior. The first principle, of treating everyone fairly and equally, is based on the company's history:

Four of us started the business. When we started there were no employees, we were all principals. What we tried to do was to treat people who joined the company as we ourselves wanted to be treated. We wanted nice offices and an attractive place to work, so we tried to provide that for everyone. The company is characterized by an egalitarian approach. Everyone, for instance, has private offices. That's fairly different, I know for a fact. So many companies just have cubicles for people.

Goodnight has also commented that he enjoys being around happy people—who wouldn't—and that if you take care of your people, they will take care of the company.

David Russo, Vice President of Human Resources, joined when there were just 25 people in the company. He started his career at Westinghouse in human resources and had a second job for a large hardware cooperative where he learned what not to do. "When I joined SAS, I wanted to be in and help grow a company that was as much fun for the employees as it was for the ownership." Another manager commented that the basic philosophy "is one of trickle down—if you treat people well, things will take care of themselves."

The second principle apparent at SAS Institute is an emphasis on intrinsic motivation and trusting people to do a good job. Barrett Joyner, Vice President of North American Sales and Marketing, stated that "the emphasis is on coaching and mentoring rather than monitoring and controlling. Trust and respect—it's amazing how far you can go with that." Goodnight commented, "We just try to be good folk" and try to be nice to people. David Russo noted that the typical performance management and evaluation process can't really motivate anyone. He believes that motivation is largely intrinsic. People either like the company and their job and are willing to work, or they aren't.

A third principle that guides virtually all decisions at SAS Institute is to think long-term. Goodnight stated, "We only take a long-term view of all issues. Since any project will take at least one to three years to come to fruition, a long-term perspective is required."

The company is able to take a long-term view because it is private. For instance, about eight years ago, SAS Institute spent approximately \$100 million a year for three years migrating its system from mainframes to a variety of other platforms including servers and personal computers. There were a number of publicly held companies in the same situation—with products designed to work on IBM mainframes—that no longer exist. These old-line mainframe oriented companies disappeared because they could not or would not invest the resources to move their systems to different platforms. A number of people in the Institute believe this reluctance to make the requisite investments was because of the companies' need to make quarterly earnings numbers.

A fourth part of the management philosophy is bottom-up decision making. Thus, for instance, Goodnight claims that SAS Institute has no specific financial goals—"just to take in more money than we spend." Nor does the firm have specific growth goals. They do set aggressive goals for the sales force and Goodnight believes if you don't grow, you die. Several people commented on the absence of bureaucracy in the company and the fact that people "aren't managed to death." Many product innovations come from customer comments and feedback as well as from initiatives of the Institute's people.

Recruitment and Selection

Because of SAS Institute's reputation in its immediate area, it receives a lot of employment applications. For instance, in October, 1997, the company ran one advertisement and had 2,200 people at a job fair run over a week-end. It also makes employment opportunities known on its web site, and receives inquiries and applications over the internet. The company recruits primarily locally for positions at headquarters, relying on North Carolina State, Duke, and the University of North Carolina. This is because not everyone wants to live in the South. Therefore, the company focuses its recruiting on areas of the country in which they can get applicants who are potentially interested in working in North Carolina. Also, the company's outstanding local reputation as a good place to work helps leverage recruiting efforts. Several people commented that probably about half of the people working in Cary were from the South. As a consequence, the company has a southern-style culture, described as being nice, friendly and informal.

SAS Institute also receives a lot of applications because it is known as a family-friendly place to work. In addition to being listed in the book, *The 100 Best Companies to Work for in America*, SAS has won recognition from *Working Mother* magazine as one of the 100 best companies for working mothers and has been listed in *Companies that Care*. In January, 1998, SAS was listed #3 in *Fortune*'s first survey of the best companies to work for.

As might be expected in a strong-culture organization, cultural fit is important in the hiring and retention process. John Boling, the Director of the Educational Technologies division, responded to the question of what would make a bad employee as follows: "A bad employee would be someone not willing to help others—colleagues and customers—and someone who needed a lot of direction." The culture is one of cooperation, teamwork, and mutual respect, and people are expected to fit into that. Because being around fun people is frequently mentioned as one of the reasons to stay at SAS, great care is given to hiring people who will fit into the company culture.

Barrett Joyner of North American sales told the following story about one of his former male employees. Joyner encourages people to think about what they really want out of their job and to be up front about it. In thinking about this question, this particular employee said: "I want to be able to have performance that permits me to do whatever I want. When I walk down the hall, I want to feel like 'I'm the man." Joyner told him that this sounded like a wonderful goal, and that he would work hard to find him a place of employment (not SAS Institute) where he could realize the goal.

Nepotism is not discouraged, and, for instance, David Russo's wife already worked at the Institute at the time he joined the company. Exhibit 3, taken from a paper on SAS Institute done by some students at the Fuqua School at Duke University, shows the sources for positions filled during 1996. The emphasis on internal promotion and employee referral are evident in the data. Several people commented that about half of the SAS Institute people had probably not worked anywhere else or had, at most, one other job before joining the company.

Compensation

SAS Institute offers none of its employees stock options or phantom stock. Jim Goodnight has referred to stock options as Ponzi schemes. The company contributes the maximum permitted by Internal Revenue Service Regulations, 15%, into employees' profit sharing retirement plans (no employee contributions are required). There is a bonus based in part on the company's financial performance, typically on the order of 5½% to 8%, paid at the end of the year. Commenting on the size of the bonus, Goodnight said:

Sometimes it's based on the feeling that we need to give the bonuses. There is no formula. It pretty much comes down to my call. If we've had a good year, it will be a good bonus. Or, if we have just an average year, but if I feel, for example, that R & D performance has been really good, then I want to give good bonuses.

We used to do bonus forms at the end of each year, but I felt like there were too many times where a particular manager would fill out a bonus form just based on the last months or few weeks. So, what we did was spread out bonus form filing. At the end of each quarter, each manager will give a report, a number between 1 and 4 for each of their people. These are then used to compute the overall bonus for the employee at the end of the year.

Base salaries are very competitive with the industry and are adjusted regularly. Merit increases are given once a year. People learn in December what their increase will be and the new salary becomes effective in January. The increases are based on the supervisor's assessment of the person's performance during the year, and the company does try to reward performance. But, the general philosophy is to deemphasize financial incentives as a source of motivation. Russo noted, "A raise is only a raise for thirty days. After that, it's just somebody's salary."

Even in the sales organization, there is little emphasis on financial rewards. Account representatives are not paid on the basis of sales commissions. Goodnight, in explaining this practice, noted that "sales commissions do not encourage an orientation toward taking care of the customer and building-long term relationships." Also, he believes a commission culture is too high pressure. He stated that they have had sales people come over from Oracle because they were tired of the high stress, high pressure, Oracle culture.

Barrett Joyner said, "We have sales targets, but mostly as a way of keeping score. I want to make the numbers, but I want to make the numbers the right way." He went on to note, "We're

big on a long-term approach. I'm not smart enough to incent on a formula. People are constantly finding holes in incentive plans." He commented that a lot of incentive plans represent ways of signaling to people what they were supposed to do and to emphasize—what is important to the company and its success. Barrett said that instead of using incentive schemes to signal what was important, "Here, we just tell people what we want them to do and what we expect." The company does not post comparative sales data by name and encourages more of a collective orientation rather than competition among account executives. The only differentiation across performers comes through the bonus. Theresa Tesh, director of sales operations, commented: "We want the sales organization to be customer focused, to be customer driven, not focused on short-term sales results."

As one measure of the long-term perspective of the sales force and their not being obsessed with sales quotas, Joyner commented that SAS Institute, in general, has a fairly small cancellation rate on evaluated software. When software is evaluated, it is not always purchased-sometimes there isn't the budget required for the product, for instance. Interestingly, the cancellation rate is even smaller on software closed in the last quarter of the year. This indicates that people are not pushing too hard just to get good numbers as the year closes.

But doesn't this kind of compensation system make it difficult to attract and retain the best talent? When asked that question, Joyner replied: "As you know, we move people around a lot at the Institute, so even though we have low turnover, account representatives may change assignments. I frequently get calls from customers that say, 'I don't want to lose my account executive.' How many software firms do you know where that happens?" Commenting on a question about free-riding, Tesh said, "It's hard to slide working on a team." Also, the sales targets help focus behavior.

As for turnover, SAS Institute has lost *no* district sales managers out of twenty in the past three years. In Cary, turnover in the sales organization is around 3%. In the regional offices, it is somewhat higher—about 6% overall. Moreover, the firm almost never loses someone to the competition. They lose people because of life changes such as a spouse relocating.

Benefits and the Work Environment

SAS Institute uses generous employee benefits and a comfortable work setting to create a healthy and fun working environment. The company's corporate headquarters are located on a 200 acre campus-like setting. There is a lake on the property, along with rolling hills, some beautiful pieces of outdoor sculpture, and picnic areas and trails. Employees will actually bring their families to the campus in good weather for picnics on the week-end. The Institute's buildings are characterized by atriums, interesting art on the walls (the company has a corporate artist), and comfortable private offices equipped with the latest technology. Rick Langston, a principal systems developer in research and development, mentioned being able to work with good equipment as one of the factors that helped the firm retain talent. Jim Goodnight himself does the general floor plan for each building. One of the architectural aims is to give people a sense of belonging to a particular group.

The company policy is for people to work 35 hours, or a 9 to 5 work day. Betty Fried, the director of corporate communications, contrasted SAS Institute with other software firms,

stating: "You know that old joke about Microsoft having flex time, they don't care what 18 hours you work?" Goodnight does not believe people work well under conditions of exhaustion:

"I've seen some of the code that people produce after these long nights and it's garbage. You throw it away the next day and start over...You have got to be alert and sharp to be a good programmer...I'd rather have sharp focused people that write good code that doesn't need as much testing. I recently came back from a Microsoft conference and they said that now Microsoft has three testers for every programmer."

SAS Institute has substantially fewer testers. Barrett Joyner commented that the sales organization also had a 35 hour work week. Did people actually work such few hours? Barrett estimated that most people worked an additional hour or two off-time each day doing things such as answering messages and e-mail, and maybe a couple of hours on the week-end. But in general the campus was not crowded on the week-end and few people stayed late into the evening.

The company's benefits are exceptional. They have a 7,500 square foot medical facility on site which is staffed by five nurse practitioners, two family practice physicians, a physical therapist, a massage therapist, and a mental health nurse. All of these people are SAS Institute employees, not outside contractors. The average waiting time to be seen at the clinic if you have an appointment is five minutes. People are not billed for their use of the facility, although there is some co-payment for the massage. Family members can also use this facility (for example, children at the on-site day care). The company's health plan covers the first dollar for many things, and is an indemnity (fee-for-service) plan—rare in an era of managed care and health maintenance organizations. Gail Adcock, the manager of corporate health services, said, "we try to be cost accountable, not lowest cost. Our health care costs are actually lower than most. Part of this is because we keep it in house. There is also an emphasis on health education." Gail noted that the objectives of the unit were to keep people at work and to decrease attrition, not simply to save money.

SAS Institute also provides on site Montessori day care with one staff person for every three children. Although this child care was originally provided completely free, employees using this service now pay \$250 per month, which is about 33% of the fee required for comparable child care in the market. Jim Goodnight recently opened a private junior and senior high school on the campus. The school is open to the community; however, about 10% of the attendees are children of SAS Institute employees. The Institute offers competitive scholarships to employee's children as well as to the community. Not only will employees' children get to attend excellent schools, but the schools will also provide laboratories for Goodnight's and others' ideas about bringing computer technology to bear on the educational process.

There is a gymnasium and exercise facility provided free to employees and their families, and this includes services such as providing towels and laundering workout clothes, also a free service. The firm's eating cafes serve excellent food at subsidized prices, with live piano music in the background. Again, families are encouraged to come and use this facility.

These facilities all are located in Cary. What about people who work in other locations? In France, SAS Institute's headquarters are in a chateau outside of Paris, and similarly elegant physical facilities are to be found near London, where the company has a giant manor house on the Thames river, Germany, where it owns a beer garden and hotel, Belgium, where it also has a chateau for an office, and Sydney, Australia. For North American employees away from headquarters, health club memberships are subsidized, as are day care costs—so that everyone is treated equivalently, at least to the extent possible. Jim Goodnight said, "We have Cary-level care at all our sites"

For instance, Betty Fried noted "We just won an award for our employees being involved in the children's education and education in general. It was called the 'Apple Pie' award, so we had free apple pie in the café that day. And we made sure that everyone got apple pie all around the country, too."

The Institute has been a leader in offering benefits to its people. For instance, it was one of the early companies providing medical and insurance benefits to domestic partners. It offers financial assistance (and paid leave) to help with adoptions. There is on-site elder care counselling and referral. With the approval of one's supervisor, flexible work schedules are possible. There is a program that awards undergraduate scholarships annually to children of SAS Institute employees. And, the company even helps with housing. The company "owns thousands of developable acres and sells employees plots at steep discounts."

One of the most important aspects of the work environment is the freedom. John Boling commented:

"When I've wanted to do research, I've had the opportunity. When I've wanted to travel, I've had the opportunity. When I've wanted to publish, I've had the opportunity. It's been pretty much my taking the initiative. I remember a lady we hired here back in 1980 in tech support. She quit after two weeks of work because when she arrived at 9 that morning, she wanted someone to tell her what her job responsibilities were to be that day. We're not set up that way. We assume that you have talent, creativity, and initiative. You have to be able to take that and run with it."

Outsourcing and the Use of Contract Workers

The firm basically outsources almost nothing and uses very, very few contract workers. They use no contract programmers nor programmers provided by temporary help agencies. Nor does SAS Institute use outsourced programming from facilities off shore. The people working in the health facility, the gymnasium, the day care facilities, and people employed in the food service are all full-time SAS Institute employees. Even many of their security guards work for the company.

SAS Institute used to use a public relations firm, but they have now taken this work back in house. They do their own training, development and printing of materials, including marketing materials and product manuals. Barrett Joyner said, "We contract out something, but I don't know what it is." This avoiding outsourcing and the use of contractors was done because, as he

commented, "if you want something done right, own it and control it." Barrett thought that most companies contracted out activities to save on costs, but in the end, wound up getting less quality. The question becomes: "how little can we get away with." The company is much less focused on short-term costs and, therefore, has less reason to do things simply to save on costs.

Performance Management

David Russo's theory of performance management is simple: give people the tools to do their job and then get out of the way. He commented:

As I said, if there were a good performance appraisal process, everybody would be using it...So what happens is companies institute a new performance appraisal process, it works for a while because it's new, and all of a sudden it starts to slide and then they start looking for something else. Consultants love this because it's job security for them.

I don't think you can really manage someone's performance. I think you can observe the results. I think you can give them the tools. I think you can set short and long-term goals. And you can sit back and see if it happens or it doesn't happen.

Why is it that any manager who wants to can find somebody who is doing a bad job and if you look at the three performance appraisals, they're all "meet expectations" or above? Because one-on-one confrontation is anathema to most people. And people who do like confrontation, you don't want to be around. So, why not cut that out of the process and say to a manager, "You don't have to confront anybody." All you have to do is to spread the rewards in a fair manner. Our idea is to have performance management be based on conversation instead of documentation.

So, what I suggested two years ago is that we just do away with the performance appraisal process.

The SAS Institute's performance evaluation and management program arose originally because a person came from IBM a long time ago and insisted that "we need professional management." The company has experimented with some groups and is now committed to eliminating the performance appraisal system. Instead of formal appraisals and performance planning, managers will commit to spending time talking to their people and providing feedback at least three times a year, as well as to spend time walking around.

Measurement is simple. Once a month, Goodnight sees a one page report on revenues and expenses. He can also track, on a daily basis using a SAS executive information system, sales figures, open positions, the customer database, and similar information. The company believes that software development and customer service are difficult to quantify, so it doesn't spend a lot of time trying to measure the unmeasurable.

Training

New employees receive an orientation program from senior managers on the company history and its vision. Helping in this process is clearly something that many long-term people enjoy doing. The orientation includes material on the heritage of the company, how it is organized by division, the business model of the firm (services coupled with software), the demographics of the customer base, and how the SAS System is positioned today.

There is a lot of technical training, virtually all of it internally done. For example, between January and mid-October 1997, there were 400 internal technical training seminars with total attendance of about 3,000 people. John Boling, the Director of the Educational Technologies division, noted that "managers need technical skills to have credibility in the organization."

In the sales organization, there is two weeks of training in Cary for new people. They are going to institute a five to six week training program that will take place over a six month period in the future. Theresa Tesh, director of sales operations, said that she believed the sales training was actually less than that given by some of the competition.

SAS Institute does not offer tuition reimbursement for taking outside classes. As for management training, they do some modest amount internally, described as "Management 101" (i.e., quite basic). The program is in three parts and takes eighteen weeks in total, with there being one-half day of instruction per week for six weeks. Although the firm has used the Center for Creative Leadership for training some specific individuals, in general the company uses very little outside training, even for management education and development.

Organizational Structure and Career Development

There are only three or four levels (depending on the specific department) in the organization. Goodnight himself has 27 direct reports. Each individual is in charge of his or her area of the business and is given responsibility for running that area. Goodnight noted, "my general management style is to let people manage their own departments and divisions with as little interference from me as possible." He does closely control headcount and authorizations to hire, because that is the key driver of expense in this business.

For the most part, communication occurs at one level below the CEO. The company has an open door policy (Goodnight noted that in his office, he didn't think you could even close the door since it had a chair in front of it) and Goodnight is quite visible in the company. One of his offices is in the Research and Development building. David Russo commented on Jim's being in contact with people:

One of the best things about Jim Goodnight, and it's frightening to some people, is that he will walk into a child care room or into the warehouse just to see how people are doing. To make that connection. One of the reasons we didn't have lunch with the other executives at the [Fortune HR] conference in Boston is because he hadn't met most of the people in our Boston office. So, he said to me, "why don't we walk across the street, pick these people up, and take them to lunch. We walked in, unannounced, and took seven people to lunch...I think that's

the perspective on performance management that is missed. It should be a relationship instead of an infrastructure.

One the norms of the company is that all managers are "working managers"—in other words, they do their jobs as well as manage others. This even extends to Goodnight, who spends a significant percentage of his time programming and leading product development teams. When asked about this work on programming and development, he said, "Yeah, running a big company like this is pretty boring."

There is a lot of movement within the company, although there is no formal succession planning. The company maintains an inventory of skills and experiences (in a SAS data base) and this is mapped against a template of opportunities in the Institute. The view is that people change careers three to four times. SAS tries to make sure that those changes occur within the company, so the philosophy is to give people the opportunity to change jobs and to get training. For example, people move from sales to development and to other parts of the organization. People move from one project to another. People move to different facilities, and back to Cary. And, people move from managerial to individual contributor roles and back again. As one illustration of this, Rick Langston, now called principal systems developer and working in research and development, for a while was in a position in which he managed others. There is an expectation that people will move as the company's needs and their interests and skills evolve. And, there is typically no reduction in pay for moving to a job without management responsibilities.

CONCLUSION

There was little doubt that SAS Institute was different. Most Silicon Valley software companies used a lot of temporary help and contract programmers—Adobe Software had virtually contracted out its human resource function to temporary help suppliers and many firms had a quarter or more of their work force comprised of contract or temporary help labor. A number of firms, even Hewlett-Packard, did software development off shore in India and Pakistan and used foreign labor, sometimes supplied by firms called "body shoppers," in the U.S., occasionally running afoul of U.S. immigration and labor laws. This was all done presumably in the interests of holding down labor costs.

Furthermore, the ethos in the valley was that incentive compensation and particularly stock options were important. It was almost an article of faith that one could not attract and retain talent if the firm didn't afford people the opportunity to get rich through stock. Although a number of Silicon Valley high technology firms did offer perquisites such as physical fitness facilities and on-site cafeterias, and some offered domestic partner benefits, virtually all had been caught up with California's move to managed care as a model of medical insurance and few offered the range of benefits that SAS did.

SAS Institute had been known as the "stealth" company, but at its present size, that was no longer true. In the fall of 1997 the firm had about 400 open positions as it sought to grow its work force by about 12%-13% in the next year. Could it continue to succeed with the same management practices that had brought it to its present position?

EXHIBIT 1.

SALES REVENUES FOR THE SAS INSTITUTE

Year	Revenue
1986	\$98 million
1987	\$130 million
1988	\$170 million
1989	\$206 million
1990	\$240 million
1991	\$295 million
1992	\$366 million
1993	\$420 million
1994	\$482 million
1995	\$562 million
1996	\$653 million
1997	\$753 million (estimated)

Source: Andrew Park, "The Future of Fortress SAS," *News and Observer*, January 4, 1998, p. 1E.

EXHIBIT 2.

DR. GOODNIGHT'S DIRECT REPORTS

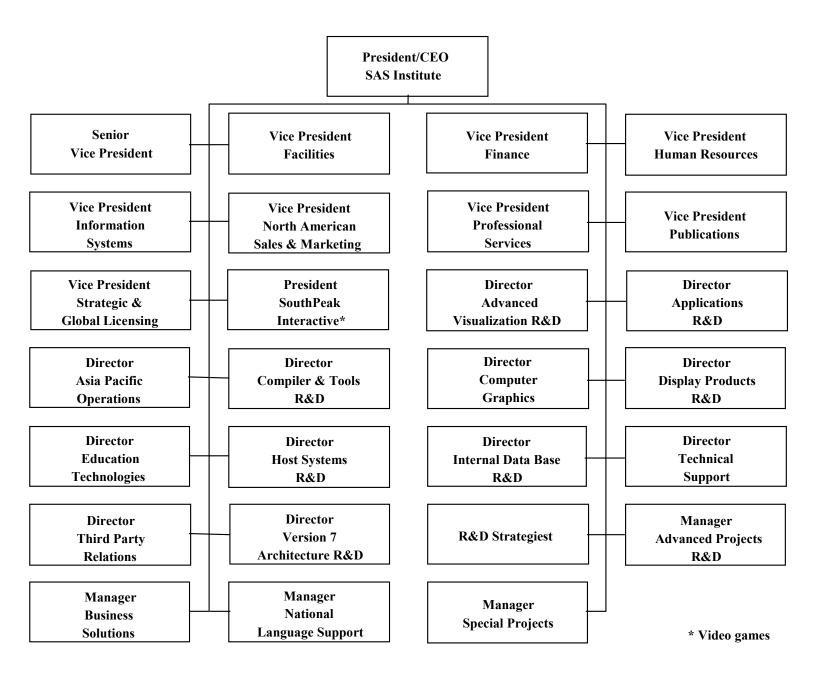


EXHIBIT 3.

SOURCE OF APPLICANTS FOR POSITIONS FILLED IN 1996

Internal promotions	28 %
Employee referral	23 %
Advertisements in non-local newspapers	20 %
Posting on the world wide web	7 %
External "job line" telephone listing	5.5 %
College recruiting	5 %
Advertisements in local newspapers	4 %
Internal job book	2.2 %
Other	5.3 %

Source: Carey Cox, Melissa Crocker, Keith Daniels, Kathleen Schroeder, and Girish Someshekar, "The SAS Institute," unpublished class paper, Fuqua School of Business, Duke University, 1997.