PROGRAMS FOR WOMEN SCIENTISTS, ENGINEERS, AND TECHNICIANS IN
FORTUNE 500 COMPANIES

Patricia L. Panlilio '96
Alyson B. Sherman '97

Worcester Polytechnic Institute
Worcester, Massachusetts

Introduction

The following research focuses on the recruitment, retention and utilization efforts for women scientists, engineers, and technicians (SETs) in Fortune 500 companies. This undergraduate interactive qualifying project was completed at the National Research Council in Washington DC in cooperation with Linda Skidmore, Director of the Committee on Women in Science and Engineering (CWSE).

This research stems from questions raised at a CWSE conference entitled, "Women SETs in Industry: Why So Few?" Women who attended this conference expressed a need for women of industry to come together to discuss different issues. In response, CWSE proposed a series of three conferences focusing on women SETs in small businesses, specific industries, and programs at Fortune 500 companies, in which this research is the foundation for this first conference in the series of three.

Programs and policies discussed within this paper are only representative of a sample of Fortune 500 companies for women SETs. Throughout this paper, one is constantly reminded that recruitment, retention, and utilization efforts are targeted at all employees. This a concept for the ideal situation, yet it is difficult to measure and analyze the effectiveness of these programs and policies in terms of systemic change within industry for women.

Methodology

For the seven week study, the two major steps in the research of these programs and policies were to conduct a comprehensive literature search and conduct telephone interviews with Fortune 500 companies vice presidents (VPs) of human resources (HR), women SETs, and men SETs. By interviewing the VPs, the logistics about programs being offered were obtained. By interviewing the men and women SETs, it was possible to obtain information on the effectiveness of these programs instituted by management.

The criteria for determining the sample from which the VPs of HR and men and women SETs were chosen is as follows: the industry in which they were employed, the location of the corporate headquarters, and the size of the company. With the list of Fortune 500 companies obtained from FORTUNE magazine, it was possible to find the percentage of companies for each of 27 industries and the percentage of headquarters that

were represented in each of the five geographic regions of the United States. These percentages were used to determine how many companies from each industry and how many companies in each region were to be represented.

Since time constraints limited the size of the sample, the data does not represent recruitment, retention, and utilization efforts in all Fortune 500 companies. From the selected sample of 71 companies covering 23 industries, a total of 7 VPs of human resources, 6 men SETs, and 17 women SETs working in 10 different industries were interviewed.

Results

The results focus on the programs offered by Fortune 500 companies for the recruitment, retention, and utilization of women SETs. This section reports what the existing policies at the companies were and the men's and women's evaluation of the recruitment, retention, and utilization policies in the sample of Fortune 500 companies. Participants also offered suggestions on how to improve these conditions.

Recruitment and Retention

The majority of VPs, men SETs, and women SETs reported the existence of (1) the commitment of CEO and other top managers to diversifying the corporate workforce, (2) opportunities for exciting and personally satisfying work, (3) educational opportunities, and (4) parental leave. The majority of men and women SETs reported well developed recruitment and retention initiatives, programs for reward and recognition, flexible work schedules, including opportunities for part-time work, as programs at their companies. A common response from men and women SETs interviewed, was that the recruitment and retention initiatives of their employer stems from the company's (1) strong desire and commitment to hiring women and ensuring opportunities for them and (2) is seen in the time spent equally recruiting women and minorities and emphasizing equal employment opportunity. A number of VPs and men SETs reported that their company's programs and policies for recruitment, retention, and utilization target both men and women and all racial groups.

Vice Presidents of Human Resources For overall employee retention these corporate efforts include the following: a vision statement about the company's mission, a communication department that offers professional development programs, communicating with women about career opportunities within the company, focus groups that deal with all kinds of family or personal issues, a group of human resources people who work with the manager of benefits, flexible benefits, career counseling, annual management development programs, a corporate women's committee, and an equal employment opportunity committee. Two weaknesses of the recruitment and retention programs were that companies were not able to make the jobs attractive to women and that there was a low number of qualified women available.

Women SETs Aside from programs already mentioned as being available at the majority of the companies is, the opportunity to pursue both technical and management career paths which will be better addressed in the Utilization section. Responses from women SETs show that companies vary in their establishment of mentoring programs, a

work-family committee, and a child-care facility. About half of the women who reported that their company had a mentoring program said that it was informal. Companies that did not have a separate committee to handle work-family issues, either assigned that responsibility to their human resources or personnel department or did not have any group that handled those issues at all.

The reputation of the recruiting staff, employment benefits, and challenges that the job offers were strengths. Specifically aiding retention, women said, are fair treatment and recognition for work well done. A common response was that the recruitment and retention programs were new but the fact that they had existed attracted the women to the company.

A number of women did not know whether their company had implemented specific efforts. Just as many women knew that salaries were not comparable to men with the same level of education and experience as those women who did not know if their salaries were comparable. A few women were also unaware of whether their company had some basic opportunities such as part-time or family leave.

The weaknesses of the recruitment and retention initiatives that women SETs reported can be grouped within four categories: (1) a resistance to change, (2) lack of opportunities within the company for women, such as incentive programs that were limited to SETs at certain levels of employment, (3) insufficient programs to meet needs of women, and (4) insufficient publicity about programs that are available. Another weakness in the company's efforts was that the company had difficulties dealing with women; problems arose not only between employer and supervisor, but also among peers. For instance, one woman who works for a medium-sized, Eastern metals company ,as a senior technical specialist and group leader, emphasized the fact that women were working with men who were "original thinkers" that sometimes resented the company's policies for promoting and rewarding women engineers.

Men SETs Again, most of these programs are not designed specifically to target women but, rather, they are effective for all employees. The supportive atmosphere due to mentoring and networking programs was a strength according to men SETs. Job flexibility, where by an employee is not limited to one department or one type of project, was also among the main strengths. According to men SETs, a major weakness in recruitment was keeping in contact with potential employees and ensuring a diverse work force during downsizing. In the aspect of retention, the weakness was recruiting employees from the outside to do work that would better utilize and retain an employee within the company. Limited promotion into upper management was also a retention weakness reported by men.

Utilization

Utilization means using an individual to their potential or challenging them to go beyond their capabilities. Both women and men SETs were asked about utilization. VPs were not asked about utilization because utilization was approached through questions about the existence of a glass ceiling and may have presented an awkward, maybe hostile, interviewing situation.

Men SETs Overall men reported that career development and advancement opportunities offered by their employers were for all employees. One surprising response

came from a senior lab manager at a large, Eastern computer company who said, "We have no policy on it." The majority of men interviewed did not give definitive responses of "yes" or "no" when asked if a glass ceiling existed for women SETs in their company. The responses hovered around the argument that no promotions of any kind were being made in any of their companies.

Women SETs Five of the seventeen women interviewed reported that no career development programs existed at their companies. However, the other women SETs frequently identified four programs effective in utilizing women SETs or assisting in their career development: (1) seminars and training for women, (2) inviting speakers to discuss different aspects of their job and opportunities open to them as women, (3) offering courses such as one focusing on women in management, and (4) the availability of corporate networks.

Two specific programs mentioned in the interviews were reported by a program manager at a large Eastern computer and office equipment company. These two programs, identification of women possessing high technical skills potential and creation of an executive management path, provide ways by which all employees can move up three positions in the span of five years. However, career advancement is limited if programs are offered at only certain sites and if the programs are not known throughout the corporation.

Other interesting responses dealt with environment, an "open door" policy, and individual initiative. A senior technician at the same company said that the "open door policy" was a strong component of that environment, since all employees are able to talk to anyone at any level. A laboratory manager at a Midwest rubber and plastic products company reported a similar situation, referred to as the "open bidding process," in which "everyone had the opportunity to put their best foot forward." One senior engineer at an Eastern scientific, photographic, and control equipment company said that, although the company had a task force to identify professionals among its employees, it was also up to the individual to make herself known. A professional at a large Western pharmaceutical company noted that management does not stand in the way of a woman's advancing. Instead, if the woman is prepared, she should take the steps necessary to advance into management. Career advancement is also a matter of individual initiative when programs are not offered throughout the corporation.

Women were asked about the glass ceiling, defined by the Department of Labor as "an invisible barrier hindering women from advancing in their careers." Most women reported that either they were aware of a glass ceiling in their company but had not experienced it yet or that they had not worked there long enough to see any evidence of a glass ceiling. However, among those aware of a glass ceiling, there were two notable responses: (1) "Women scientists are different from men.... The problems we often choose to work on are often different. And how we work on them is different. And that is the main barrier ," from a research staff member at a large Eastern computer and office equipment company and (2) "Yes, definitely, just look at a copy of our annual report... bald-headed white men!" from a senior technician at a medium-sized, Eastern metals company.

Some women SETs doubted that a glass ceiling exists. One female manager thought that overcoming a glass ceiling was "a matter or time," that women who have not been in

the company long or lack the qualifications to be promoted should not expect to be promoted. She said that once a woman has the qualifications, which will take time to acquire, then she should be promoted. Similarly, a senior design engineer felt that women SETs have advanced already, but that if she does not continue to see women move upward, then the glass ceiling will be a true barrier.

The levels at which women interviewed believed they reach the glass ceiling are: senior technician, senior researcher, senior staff technician, and senior scientist positions; senior, division or executive management; directors and VP positions. With that being the case, the need to investigate the motivations and influences for women SETs to stay with their companies arose. Many women also reported being content with the diversity initiative. The women SETs also valued opportunities to learn about the contribution of their work to achieving corporate goals, to pursue advanced education, and to grow professionally. Beyond programs offered at companies, there are the personal motivations to continue working there, such as the reputation of the company, how the company values its employees, and the belief in the product and that she can improve it. Two notable responses reflected quite personal motivations: (2) "the challenge to be recognized as a minority woman and to pave way for other women SETs" and "never felt like I couldn't do something that I wanted to do," both responses from a research staff member of a large Eastern computer and office equipment company.

Participants' Suggestions Participants also offered suggestions for the improvement of recruitment, retention, and utilization initiatives for SETs. All three types of professionals agreed that there needs to be improvement in communicating opportunities, programs, policies, and desires to hire, retain, and utilize women SETs. Some participants suggested that promotional devices such as movies, closer links to schools, cooperative programs and internships would make communication to women SETs less difficult.. To enhance links with schools, participants suggested broadening the availability of programs with schools to more than one geographical region.

These professionals also agreed that mentoring, networking, and role model programs should be improved or instituted as formal programs. Women would like to see more legitimate networks established which would be positive and encourage more participation by women in the company. Men stress that these efforts are helpful to women entering the company and VPs would like to see these types of programs instituted across a spectrum of companies.

Women strongly suggested corporate-wide enforcement and follow-through of programs such as part-time opportunities, flexible and modified work weeks. According to men, these efforts must stay intact during downsizing to protect recruitment, retention, and utilization efforts. Women also suggested more recognition for women and minorities. Women said that management should emphasize "equal talent - equal reward" and set standards for career advancement opportunities, which will eventually help to alleviate aspects of the glass ceiling.

Recommendations

Improving existing programs or more drastic changes such as implementation of new programs not only improves the recruitment, retention, and utilization efforts of a company but also improves the work conditions of that company. These recommendations are for implementing, improving, and increasing the awareness of recruitment, retention, and utilization efforts, and more specifically, for programs that can increase opportunities for women SETs in these areas.

Recruitment, Retention & Utilization

Many interviewees indicated that their companies had programs to recruit and retain women SETs but needed better programs in this area. Some programs that help recruit women also help to retain them. Through the research of successful programs and the responses from interviews, it is recommended that Fortune 500 companies institute the following programs to enhance their recruitment and retention of women SETs: (1) educational opportunities, (2) women's professional councils, (3) flexible work schedules such as part-time, reduced time, flexible work hours, tele-commuting, and job-sharing, (4) equal salaries for all workers with the same education level, length of experience, and work load, (5) spousal relocation programs, (6) personal and parental leave, and (7) child and dependent care services.

These are additional programs for improving recruitment: (1) cooperative learning programs with internships and summer programs that involve college women and minorities, and (2) participation of the human resource staff and women SETs employed in the company in career fairs, along with an increase of promotional devices to college-level women about the opportunities available at their company. There are also two additional programs for improving retention: (1) recognition in the form of cash or other rewards for outstanding work and (2) career planning.

Again programs will overlap and help conditions in more than one area. There are three main programs that improve retention and utilization of SETs: (1) mentoring and networking, (2) a policy on harassment, and (3) promotion and selection process programs.

Overall, companies that were contacted indicated some of these efforts towards recruitment, retention, and utilization of women SETs. However, some of the companies do not make their programs known to all of their employees and, therefore, better communicate their programs to their employees. It is recommended that all company programs and policies be made clear to each employee by publications, newsletters, posters, and seminars explaining programs and the benefits an employee may receive by taking advantage of certain programs.

Conclusion

It is important to continue research in this area. More comprehensive research should include exact salary differences between men and women SETs employed in Fortune 500 companies, a direct comparison of programs as they are stated by the human resource departments and seen by the employees, a more detailed investigation of the effects of the glass ceiling at Fortune 500 companies, and a comparison between the working conditions of men and women.