Strategic Management of Human Capital

By Eric K. Rodriguez, P.E.

The Workforce Problem

The retirement of the Baby Boom Generation (those born between 1946 and 1963) has prompted much thought and discussion about a potential gap in the American workforce. That discussion has definitely occurred within the engineering profession. However, the situation may not be as dire as some believe it to be. A quick look at birth statistics and the number of science and engineering (S&E) degrees awarded annually paint a more positive picture. *Figure 1* shows the relationship between the two statistics.

With the exception of a short spike in the birth rate in 1969 and 1970, the period from 1961 to 1973 saw a drastic decline in the number of births annually. It is this drastic decline in the number of births that is most likely the root of the fears associated with the mass retirement of the Baby Boomers. However, if you look at the period from 1983 to 1995, when most of those born between 1961 and 1973 earned their degrees, you will see that the number of S&E degrees awarded still increased modestly. At least for S&E professions, this trend contradicts the thinking that there simply aren't enough people to replace the Baby Boomers once they are gone from the workforce. To further support the argument that the S&E workforce isn't top heavy with aging Baby Boomers, *Figure 2* shows a fairly
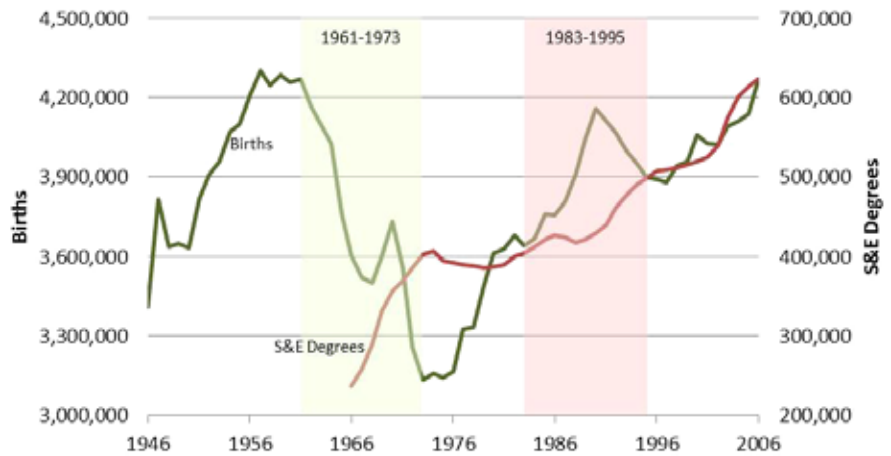

Figure 1: S&E degrees awarded have steadily trended upward despite drastic declines/inclines in the birth rate.

*Sources: Centers for Disease Control and Prevention. National Center for Health Statistics. VitalStats. **www.cdc.gov.nchs/vitalstats.htm**. December 2011 and National Science Foundation, Division of Science Resource Statistics. 2008. Science and Engineering Degrees: 1996-2006. Detailed Statistical Tables NSF 08-321. Arlington, VA. Available at **www.nsf.gov/statistics/nsf08321/**.*

even age distribution among workers with S&E degrees.

Of course, the S&E workforce is comprised of several professions and each of those professions will be impacted to varying degrees by an aging workforce. According to the National Science Board report, *Science and Engineering Indicators 2010*, 34% of the civil engineering profession workforce was age 50 or older in 2006. This suggests that by 2021 approximately one third of the 2006 civil

engineering workforce will be gone. That is not the problem, however. The problem is twofold: first, companies must develop younger engineers so that they are prepared to assume the responsibilities left behind by those who have retired and, second, they must recruit the next generation of engineers into the profession.

Accomplishing those two tasks may be easier said than done. Firms can't just assume there will always be an abundant pool of engineering graduates to choose from. Going back to *Figure 1*, you can see another drop in the birth rate in the early 1990s. This drop in the birth rate, along with the growing popularity of non-S&E degrees, could signal a slower increase (or even worse, a decrease) in the number of new engineering graduates. And, engineering firms just aren't competing with each other for top talent; they are also competing with outside industries who value the skills that engineers possess. Adding to the challenge, the other industries competing with engineering firms for talent are often able to offer higher compensation, more glamorous roles, quicker advancement, or a number of other perks, all of which might be just enough reason for one to leave the engineering industry or skip it altogether.

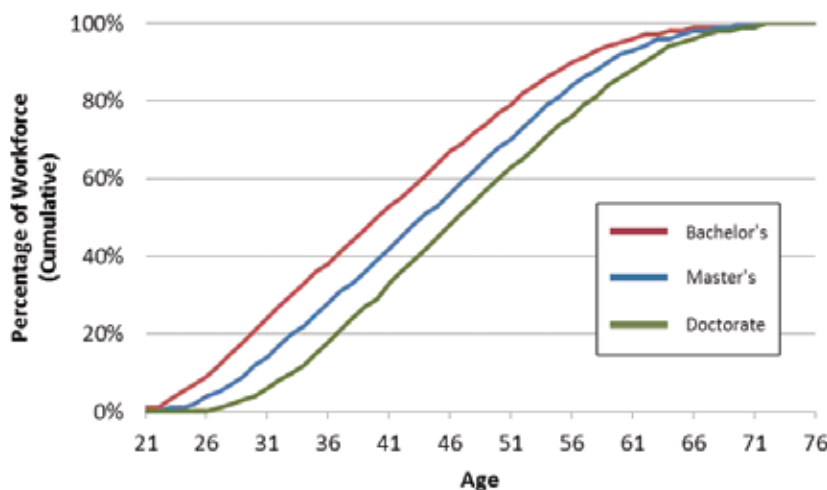Developing today's professionals and recruiting tomorrow's is nothing new. But,

Figure 2: Ages of S&E workforce are evenly distributed at all degree levels (as of 2003).

Source: National Science Board. 2010. Science and Engineering Indicators 2010. Arlington, VA: National Science Foundation (NSB 10-01)

the methods industries and companies must utilize to address these tasks are new. Those professions and companies that insist on using the tried and true methods of the past will find themselves struggling to hold on to their most valuable individuals and failing to attract the most promising young talent.

To overcome these challenges, companies must effectively manage their human capital. For many companies, this responsibility falls on the human resources (HR) department; and, often times, it becomes a part of the basic day-to-day activities that are performed on an as-needed basis. Human capital management must be more than this. It must become a strategic initiative of the firm. And, firm managers, along with HR professionals, must be responsible for developing and implementing a strategic human capital plan.

Human Capital Strategy

While there is no one-size-fits-all strategic human capital plan, *Figure 3* shows a typical process a firm might follow in establishing and executing such a plan.

Identify Challenges

The first step in developing a strategic human capital plan is to identify the challenges facing the firm. Though this may seem blatantly obvious, it bears mentioning because of its importance. This is where the firm must take a critical look at itself and identify its own shortcomings. Common HR issues that most firms will face at one point will most likely come to mind, such as difficulties in
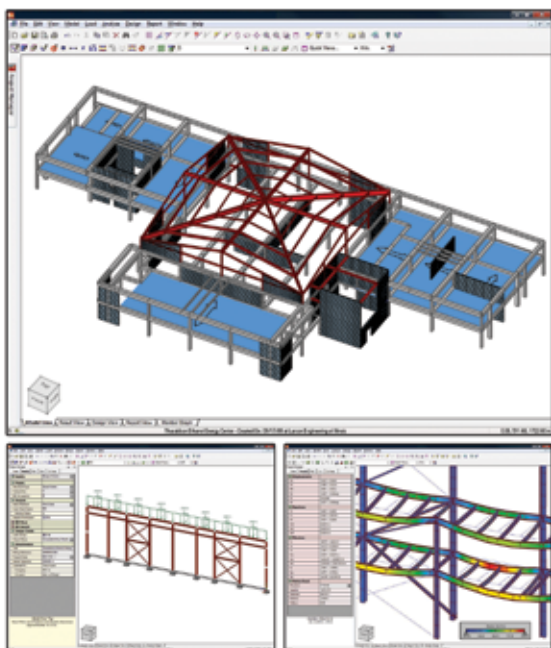

Figure 3: Typical process for designing and implementing a strategic human capital plan.

hiring highly qualified individuals, retaining top performers, or developing specific skill sets in workers. Then there are issues like a non-diverse workforce, generational gaps, and succession planning that may not be as common or obvious; however, issues such as

these could leave large gaps or shortcomings in a firm's human capital.

The previous examples are all challenges that are directly related to human capital issues. But, there may be other challenges facing a firm that are indirectly related to human capital issues. For example, a firm that is experiencing increased revenues along with stagnant or decreased profits might have a staff that is top-heavy with senior leadership positions. Another example would be a firm that is struggling to meet tighter schedules and budgets might have a workforce that is not receiving the proper training to take advantage of new technologies.

Align Strategies

Before the firm can move on to addressing the challenges it identified previously, the firm must first address the second step in the strategic development process, which is ensuring that the human capital strategy is aligned with the overall business strategy. Again, what may seem like common sense becomes a very important component of developing a strategic human capital plan. This strategic plan must improve the management of human capital, as well as help meet the objectives of the overall business strategy. If the two strategies are not aligned with each other, they will eventually work against each other. In this case, one will eventually lose priority and fail; the other may be derailed to the point that it too will eventually fail.

Clearly State Goals

At this point in the process, after identifying the major challenges facing the firm and considering the overall strategic direction of the firm, the goals for the strategic human capital plan should start to become apparent. The goals should be clearly stated and measurable. It is not enough to have a stated goal to "Develop a highly skilled and trained workforce." Such a goal is entirely subjective and does not allow the firm to determine whether it is being successful in its execution. If developing a highly skilled and trained workforce is a goal, then "highly skilled and trained" must be defined and a timeframe for meeting the goal must be established. A better way to state the same goal would be: "At the end of Year 1, all professional staff will be participating in a professional development/continuing education program that requires ten hours of learning that is directly related to his/her everyday duties and five hours of learning that promotes professional growth." The two goals state essentially the same concept. By providing clear measures and a deadline, however, the latter removes all subjectiveness from determining whether or not the firm has been successful in meeting the goal. This is crucial in allowing the firm to perform the final step in the process.

Define and Implement Action Plan

Now that the firm has a solid understanding of the direction it wants to head, it is time to set forth an action plan. At a minimum, the action plan should provide the following information:

- Strategy Leader: The person responsible for the Human Capital Strategic Plan as a whole
- Goal Leaders: The persons who will take ownership of specific goals
- The tasks required to accomplish each stated goal
- The resources available to designated goal leaders

It is important that someone in the organization take ownership of the Human Capital Strategic Plan and be its champion. Otherwise, the strategic plan will likely be forgotten as others in the organization focus their efforts on shortsighted goals. The strategy leader will need to manage a team of goal leaders (from various groups/departments of the company) that will each be responsible for meeting a specific goal stated in the strategic plan. Individual goal leaders should work with the human capital strategy leader in developing a process to meet each goal. And, the strategy and goal leaders (human capital strategy team) should be given the proper resources needed to attain each goal.

After the human capital strategy team is in place, implementation of the strategic plan can begin. Naturally, this will be the most difficult stage of the entire process. Implementation can be difficult because it involves a diverse group of individuals. As noted earlier, the responsibility of executing this strategic initiative cannot fall on just the HR department; rather, firm managers must also play a key role in ensuring the strategic plan is executed successfully. This is where the difficulty lies. The person managing the strategic plan must guard against individuals sacrificing their human capital strategy obligations in favor of their day-to-day obligations.

Evaluate Progress

Once the strategic plan is in motion, progress will need to be evaluated periodically. By doing this, the strategy leader can hold the goal leaders accountable. And, through these progress evaluations, the team will be able to identify which action plans are on track for success and which are in danger of failure. For those goals that are in danger of failure, the team should analyze why. Reasons for the potential failure could be anything from poor team execution to unrealistic expectations. However, just because a specific goal is off to an unsuccessful start, the goal shouldn't be scratched. Rather, the team should address the reasons the progress isn't where it should be and make the necessary modifications. This allows the entire process, from identifying challenges to evaluating progress, to be dynamic.

This dynamic approach to the process will be key in the successful design and implementation of the human capital strategic plan. The team will learn what works well within the organization and what doesn't. They should also look for new challenges facing the firm. When these new challenges are identified, they can be worked into the current strategic plan or into an entirely new plan.

Conclusion

The personalities of workers are rapidly changing. The issues that matter most to the Baby Boomers often don't matter to those workers from Generation Y. The way people from different generations learn, work, and communicate are different. Just as there is no one-size-fits-all human capital strategic plan, there is no one-size-fits-all way of managing people. Understanding your workforce, and understanding the challenges to building and maintaining a strong workforce, are crucial factors to your company's success.▪

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