Success Strategies for the Mid-Career Chemical Engineer

Elizabeth Feehan,
AIChE Career
Services Dept.

Here's how to take stock of your career and identify and explore a wide range of opportunities so you can decide where you want to go and develop a career plan for getting there.

Ask anyone who's enjoying a successful and satisfying career and you'll hear that planning and chance have both contributed, with planning taking center stage. Execution of a career plan gets people where they want to go. It's the proactive ingredient that leads to smart career decisions that are true to individual talents, needs, and aspirations. Without planning, careers can falter, meander, and go in unwanted directions.

That's not to say that successful careers don't take detours. Often, that's just what happens when chance comes into the picture, either in the form of opportunity or happenstance.

For chemical engineers starting out, life is simple. Early-stage career concerns regarding planning and chance are straightforward and relate to the transition from student to professional. Chance, whether opportunity or happenstance, may introduce worthwhile options not yet considered. Most decisions involve minimal career risk and often yield significant rewards. If happenstance leads to job loss early in a career, the situation is usually remedied quickly. It's easier for the inexperienced to pick themselves up and move on to a new opportunity.

The career concerns facing mid-career chemical engineers are much more complex (Table 1). Through careful and dedicated execution of their career plans, they've reached a certain level of competence and stature. Regrettably, many are finding chance in the form of opportunity less frequent and chance in the form of negative happenstance as cause for feeling stuck or at risk.

Many mid-career engineers are finding that consolidating industries and flattened organizations are eliminating promotional opportunities. Moreover, some are feeling that their future employment is at risk in light of changes and trends in their organization, specialty, or industry. Lack of opportunity and happenstance — both beyond their control — are affecting their careers dramatically, and they are finding it difficult to hope in the future.

In a recent survey of mid-career engineers (see sidebar), more than half reported that al-

A survey of mid-career engineers

A survey in late 1999 assessed the career status of a small group of chemical, mechanical, electrical, and civil engineers aged 35–45 and 46–55.

About a third of the chemical engineers classified themselves as "gainfully employed, feeling empowered and satisfied." Twenty-five percent said they were "currently employed, feeling 'stuck' professionally on the job," and 29% described themselves as "gainfully employed, feeling 'at risk' because of changes/trends in my organization/field."

Just as many mechanical, electrical, and civil engineers reported being "stuck." Being "at risk" is a shared concern for mechanical and chemical engineers, while only 16% of electrical and 9% of civil engineers considered themselves "at risk."

These data suggest two key career planning issues for mid-career engineers — how to contend with or stave off that feeling of "being stuck" with no place to go, and how to sustain one's employability in the face of unforeseen or uncontrollable events.

though they are employed, they feel "stuck" in their situation, or "at risk" because of changes in their organization or field. Only one-third said they were gainfully employed and feeling empowered and satisfied.

This article is intended for all mid-career chemical engineers — those who are enjoying their careers and those who are feeling vulnerable. It offers a template for mid-career planning, suggests some opportunities to consider, and, through examples, demonstrates how some engineers are recognizing and seizing these opportunities. Finally, it offers some tips on how to weather, and maybe even capitalize on, happenstance.

Planning at mid-career

Mid-career is the perfect time to take a retrospective and prospective view of one's career. It's a time to look back and chronicle what your experience is worth in today's marketplace. It's also a good time to look into the future at "out of the box" career possibilities and decide if you're on the right track or need to make some adjustments. Creating a career plan will guide you in achieving short-term and long-term career goals and contribute to continuing employability. A career plan addresses three simple questions. First, a retrospective career self-assessment answers *Who am I?* Then a prospective view looks at *Where am I going?* and *How do I get there?*

Taking stock — a career retrospective

Benefits and advantages. The mid-career chemical engineer, by virtue of years of work experience, brings added value to any work assignment. Unlike the newly minted engineer who has excellent classroom preparation, the practiced engineer has *tested theoretical knowledge.* One of the best beginning exercises for mid-career planning is identification of the benefits and advantages of being at mid-career.

Some audiences may see certain benefits and advantages of mid-ca-

Table 1. Common concerns of mid-career engineers.

Concerns related to planning
Am I competitive with peers and subordinates?
How can I stay current?
What value am I adding?
Can I invest heavily in my future?
How loyal should I be to my employer?
What are my future opportunities?
How productive will I be?
What can I do to ensure my employability?
What are my relationships with competitors, peers, and subordinates?
How well-connected am I?
How do I balance work and my personal life?
Concerns related to opportunity
Is my skill set state-of-the-art? What am I doing to keep current?
How entrenched am I?
How receptive would I be to a new opportunity?
Am I hearing about opportunities? If not, why? How can I improve on that?
How strong is my reputation — within and outside my employer, and with recruiters, and with my professional network?
Concerns related to happenstance
What added value am I contributing to enhance my position?
What am I doing to ensure my employability?
What is my contingency plan in the event of a merger, consolidation, or other reorganization?
What steps am I taking for a rainy day?
How well networked am I?

Source: Adapted from Kram, K. E., "Mentoring at Work: Developmental Relationships in Organizational Life," University Press of America, Rowman & Littlefield Publishing Group, Lanham, MD (1988).

reerists as liabilities. Despite what others may think, include all the factors you consider important.

Take age, for example. As Mark Twain said, "Age is a case of mind over matter; if you don't mind, it doesn't matter." While some may view it as a career disadvantage, value it for what it means to you and to an employer. You've got more experience than younger engineers. Your judgment and commitment to quality are well-developed. You probably have more staying power.

List the benefits and advantages you have acquired or solidified over the course of your career. Make the list as long as possible, adding to it as you prepare your career plan. If you're having trouble getting started, think about your present or most recent position. What special assets did you contribute? What did your manager report about your performance? As you develop your list of benefits and advantages, describe them in general, avoiding descriptions that associate you with a single industry, function, and especially age.

Professional experience. Write a career history. Using a single sheet for each position held, describe your responsibilities and duties, scope of the job, who you reported to and supervised, and your interactions with other departments, vendors, and suppliers. Answer the following questions:

- What technical skills and competencies did you develop and use during each assignment?
- What nontechnical skills and talents did you develop and apply?
- What were your major accomplishments? Which made you the proudest? Why?
- What words did your managers use to describe your performance? What were you praised for? Criticized for?
- What would you do differently if given the chance?
- What aspects of each assignment did you like best? Least?

If you've been active in non-work professional activities, such as AIChE, examine the experience using the above questions where relevant.

This exercise will inventory your technical and personal skills, confirm what you enjoy doing most, and help you create a resumé should you need one.

A personal history. Examine your personal life — as friend, partner, parent, alumnus/alumna, and community volunteer. Again, commit your thoughts to paper. What value do you place on each of these personal aspects of your life? What have you learned about yourself from each? What skills have they tapped?

Key values. When what we value in life is in sync with how we earn a living, career satisfaction and success usually follow. Make a list of the key factors (accomplishment, recognition, autonomy, security, etc.) that are your prime motivators. Are they the same factors that motivated you in the early stage of your career? What circumstances have changed? (For electronic versions of a values exercise and a skills assessment inventory, contact careerservices@aiche.org.)

Experience with change. The past 20 to 30 years have witnessed profound changes in the workplace. Companies have merged; some have disappeared. Employee/employer relationships have been redefined.

Table 2. Career dimensions questionnaire.

To set the stage for writing a career plan, complete this three-part exercise. Begin by answering the questionnaire with respect to the way things were for most chemical engineers before (between about 1970 and 1990). Then, answer the same questions with respect to how things are now. Finally, consider the differences between your "then" answers and your "now" answers. Consider how chemical engineers in general — and you in particular — fared during the past 20 to 30 years. How have your attitudes toward your career and employers changed? Which of your values have been affected?

Putting your thoughts on paper serves several purposes. It clarifies and firms up thinking, and it objectifies it. Sometimes the very act of writing frees the writer of any possible negativity.

Don't be surprised if this exercise raises some hackles! If it does, ask yourself why. How are you dealing with the stress these changes cause you? How is the stress affecting your performance? How is it influencing your view of the future? Your future specifically?

	Then	Now
What were/are the best companies to work for?		
What were/are the characteristics of the best companies? Large or small? Well-established or startup? Hierarchical or flat management? U.S. or international? (Other?)		
What factors made/make these companies the best from your perspective?		
What were/are the most promising industries employing chemical engineers?		
What were/are the least promising industries employing chemical engineers?		
What were/are the features and characteristics of the best jobs for chemical engineers?		
How did/do you measure career success?		
What was/is the best way to succeed in chemical engineering jobs during this period?		
From a career perspective, you "died and went to heaven" when _____.		
What was/is your concept of a career track or ladder?		

Assess your workplace attitudes using the career dimensions questionnaire in Table 2. As someone who's seen and experienced much change first-hand, you've formed some judgments about the new workplace. This exercise will help you rate yourself in terms of "change acceptance." Are you comfortable with managing and planning your career in a changing environment? Are you a middle-of-the-road person who acknowledges that these changes are here to stay? Or do you pine for what were thought of as the good old days? How you handle change will impact your planning, as well as determine how you are viewed by a current or potential employer, colleague, or subordinate.

Your attitudes will influence your career choices. If you value the security of a well-established employer who offers benefits and a history of job security, you will be ill advised to join a startup that offers a high-risk and high-reward future. Likewise, if you thrive in a fast-paced evolving environment, look for opportunities in a cutting-edge setting.

What and where are the opportunities?

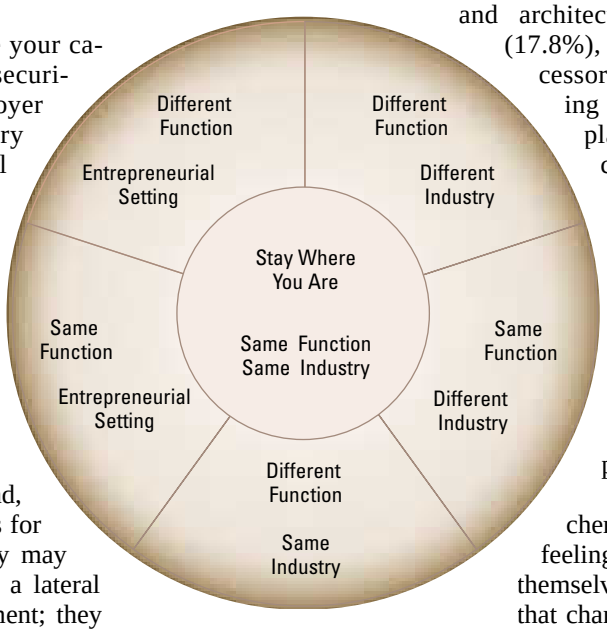
When you look straight ahead, some fairly evident opportunities for chemical engineers appear. They may be in the form of a promotion, a lateral transfer, or a temporary assignment; they may even be anticipated or targeted. Using a wide-angle lens, however, some different opportunities become apparent. Moving to a business spin-off, developing a new functional specialty (such as sales and marketing), or joining an employer that is outside the traditional sector for chemical engineers are possibilities.

For the mid-career engineer, all of these opportunities deserve consideration with respect to the questions: Where am I going? How do these opportunities relate to my self-assessment? How do they fit in with my longer-term goals and aspirations?

Pursuing some of the opportunities may be risky; some may even require unusual investments of time, energy, and financial commitment. A decision to not pursue any of them, however, may only exacerbate feelings of being stuck or at risk.

In the February issue of *CEP* (pp. 69–74), AIChE President Calvin Cobb describes a rapidly changing workplace and a profession undergoing metamorphosis. His comparisons of employer rankings by market capitalization from 1969 to 1999 demonstrate clearly that the employment landscape for all — including chemical engineers — has changed dramatically. In 1969, IBM, AT&T, and General Motors were the top three; in 1999, Microsoft, GE, and Cisco, two of which didn't even appear on the 1989 list, had replaced them. He suggests that engineers learn more about the emerging sectors and evaluate their suitability for the opportunities they present.

The best places to look may be in those areas projected to grow. According to the U.S. Bureau of Labor Statistics, overall employment for the chemical engineering profession during the period 1998–2008 is expected to grow 9.5%, with the most growth in engineering and architectural services (24.4%), drugs (17.8%), electronic components and accessories (40.4%), research and testing services (59.5%), miscellaneous plastics products (23.3%), and computer and data processing services (105.5%, although this may be somewhat misleading because it is based on a small number of jobs). Negative growth is projected for several sectors that have traditionally employed chemical engineers, namely industrial inorganic chemicals (–17.6%) and petroleum refining (–35.8%).



■ Figure. Look through a wider lens to identify career opportunities.

The challenge for mid-career chemical engineers, especially those feeling vulnerable, may be to reinvent themselves in light of the opportunities that change is bringing. Painful though it may be to leave behind a known industry sector or functional specialty, the wisdom of the 21st century is to examine all the possibilities, no matter how far-fetched they seem at first glance. Let's look at what the choices are (see figure) and examine some cases that illustrate the decisions AIChE members have been making.

Same function, same industry

Staying within a known industry and function is the most traditional career plan. For some engineers, this choice represents not only the "comfort zone," but also the best zone. For others, however, this choice may exacerbate the feeling of being stuck or at risk. Consider this career goal in light of:

- The current status of the industry. Is it mature, developing, consolidating, or globalizing? What are the implications for future employment? Knowing what's happening in the industry in general, as well as with your current employer and with competitors, may shed light on long-term employment prospects.
- Your current employer. Is it diversifying, automating

functions, or consolidating? Is it in an acquisition mode or more likely an acquisition target? No one can predict the future of a company with pinpoint accuracy; however, analysis of the situation may suggest a contingency plan.

• Your skills portfolio. To what degree is technology changing or replacing your function? What skills and competencies do new employees bring with them? To what degree are you competing successfully with newcomers?

• Personal and/or family concerns. How adaptable are you? How well do you tolerate change? How will a move affect your family and others in your life? How will your financial situation be affected?

If staying within the comfort of a known industry and specialty is your plan, look for ways to add value to your employer and at the same time enhance your career. For example: become an active mentor to newly hired chemical engineers; volunteer for a special project; write a technical article that brings attention to your employer; or take on a leadership role in a company-sponsored volunteer activity. Build a reputation outside your company. Watch how successful engineers behave and emulate their strong points. Be actively involved with an AIChE local section, committee, division, or forum.

One chemical engineer who has been employed by a petroleum company since graduating college has made a commitment to his employer, which in turn has given him a wide berth for his professional and personal development. John has become a major player in the implementation of his employer's acquisition of another company, recruits for his employer at his alma mater, and serves as a mentor to newer engineers; his employer supports his activities with AIChE and the National Council of Examiners for Engineering and Surveying (NCEES), the organization that administers the P.E. licensure exam. He's building a strong reputation both internally and externally and simultaneously nurturing a network of contacts.

Different function, same industry

Shifting to a new function is most easily accomplished with one's current employer, where contacts and working relationships can help facilitate transfers. Most internal candidates for a position have an advantage over external candidates. For this reason alone, it's smart to cultivate a good reputation in your organization.

The possibilities go beyond the typical process engineering or other functions. Consider the management track, sales and marketing, logistics and purchasing, internal consulting, customer support, or public relations. All build on basic engineering know-how and relevant experience.

If you think you lack the skills and experience for moving to another specialty, now is the time to learn what you need and invest in your future. For example:

• Network with those who work in the targeted area to learn what it takes to be successful.

• Ask for advice from those who hire for the specialty, and learn how your skills may translate.

• Take a course — if it's sales you're after, enroll in a Dale Carnegie course, or if it's a technical specialty, register for an AIChE or local college class.

• Read professional publications or journals associated with the specialty.

• Join the appropriate professional association and volunteer your services to that association. Use volunteerism as a means of developing needed skills and experience, as well as building recognition among potential colleagues.

Motivated by a personal concern for the career advancement of underrepresented groups in conjunction with her employer's recognition of the value of diversity, Helen moved from an engineering assignment to directing her company's diversity initiatives. This lateral move permits her to stay close to the profession and put her values into practice. In addition, the assignment is broadening her network of contacts at similar corporations, universities, and professional associations.

Same function, different industry

Every hiring decision involves some risk. To control for risk, most employers prefer to hire engineers with industry-specific experience and pass over those whose experience is outside the sector. Many chemical engineering specialties, however, are more portable than they may first appear. Process engineering, product design, and internal consulting rely on common chemical engineering competencies.

If you are considering a different industry, whether it is a traditional employer of chemical engineers or an emerging one, begin by evaluating how the skills and competencies that make you successful in one environment translate to another. Research through reading and informational meetings may give you insights. Use informational interviews with people working in that industry sector to explore how your skills translate to that industry. Your thorough self-assessment will provide the contents for such discussions. Find out what these employers are looking for in new hires and how the desired skills can be acquired. Learn and use the vocabulary of the industry — the hallmark of an insider.

During these networking meetings, describe your skills and past accomplishments in a generic way rather than in terms specific to your current industry. That's what Marilyn says advanced her job search. Her specialty in process improvement landed several job offers simultaneously in different sectors — diagnostic instruments, chemicals, and pharmaceuticals. She believes her sense of confidence was contagious — making recruiters and hiring managers confident that she had the potential to be successful in other arenas.

Consider how Hank landed his new job. When his employer, an equipment manufacturer, eliminated his position in compliance, he developed a plan to reenter the pharmaceutical industry, where he had worked for a short time

about 15 years ago. This industry choice was deliberate — it's highly visible in the state where he lives, and his research told him that the Food and Drug Administration (FDA) was scrutinizing the industry. He pursued employers who had signed consent decrees with the FDA and needed chemical engineers. He based his plan on the premise that employers hire people who meet their needs. To make himself more marketable, he sought some contract assignments related to his goal while he conducted a lengthy job campaign. Despite his belief that "compliance is compliance, no matter the industry," the move wasn't easy. "I applied repeatedly to some companies; I networked in; and I finally landed the job through a face-to-face meeting with a hiring manager at a job fair." Hank added, "You create your own tag. If you describe yourself in the right way, potential employers will think of you in that way."

Others have moved to different industries — without loss of professional or financial status. In some cases, as Hank did, they used consulting and/or contracting assignments to support the move. Others added graduate degrees or specialized training. All invested in their future.

Different function, different industry

Although the majority of chemical engineers are wedded to their profession, a few have made a more dramatic shift by parlaying a strong suit into a new functional specialty. Executive recruiters, a number of whom are chemical engineers, source and recommend engineers for hire by their clients. A thorough knowledge of the profession and employer needs, as well as a strong personal network, make them highly effective in this capacity. Others are applying their analytical and writing skills to technical writing for boutique communications companies and financial institutions. Still others are leaving industrial positions to become university faculty members. (For more on making that transition, see *CEP,* April 2001, pp. 86–93.)

Alice, who worked in process engineering for a chemicals company, returned to school for a graduate degree and is now producing software packages used by chemical and other engineers. Another chemical engineer, with an avocational interest in investments, is a financial consultant for a major brokerage firm.

Same function, entrepreneurial setting

Years ago, the term consultant was associated with "being between jobs," but that's no longer the case. Many engineers are taking advantage of the opportunities created by employers' outsourcing of certain functions and hiring of specialists as needed, and predictions of continuing growth in this area.

When Ed began to feel vulnerable in his job, he took a hard look at his options and started planning to "go out on his own." His first step was to incorporate (he did this while still working), which he said signaled commitment. His advice to would-be entrepreneurs is simple: "Develop a specialty, one that has a sufficient market. Start saving to tide you over during the first six months to a year. Prepare to sell, sell, sell." Though he's having fun being his own boss, Ed acknowledges that "being a one-man band" is lonely. He compensates by steady networking, professional activities, and community service, all of which have contributed to his business.

As Ed suggests, planning and preparation are key to starting a consulting business. Before taking the plunge, do some homework. Enroll in a "start your own business" class. The Service Corps of Retired Executives (SCORE) offers workshops that cover such topics as incorporation, accounting, marketing, and business planning, and its members will sometimes consult on business plan development. Interview others who are consulting to learn what they like and dislike. Join an entrepreneurs' network of engineers or other professionals. Become a licensed chemical engineer in your state.

Consider carefully the personal side of consulting. Does entrepreneurship fit your self-assessment? Does it fit your values, as well as your personal and financial situation?

Another chemical engineer, after years as a consultant, reversed the process. For a variety of professional and personal reasons, Peter closed his business and sought employment. He admits that age (55+) made his search difficult. He even hired a coach to help him through some rough spots. "Listen to what an employer is saying and find out what's bugging him," is Peter's advice. "Whether you're on your own or working for a consulting firm, look for solutions to problems." Peter used his connections and his consulting know-how to land a position with a small consulting firm that specializes in the biotech/pharmaceutical arena. (His former consulting practice focused on the chemicals/plastics sector.) Whether headed toward or away from entrepreneurship, Peter advises, "Act like an entrepreneur. Acquire new skills. Be good at making presentations. Learn new software applications. Do whatever you can to add value."

Different function, entrepreneurial setting

Sometimes, after a number of years of professional life, an internal alarm sounds. Such was the case for Jane. It wasn't that she was unsuccessful or unhappy in her work. Rather, after 15 years in environmental engineering, she wanted to be her own boss. Jane is now applying well-developed leadership, coaching, and consulting expertise to individual and group coaching. She's building a consultancy of private and corporate clients who retain her to develop individuals and groups to perform at their best. As she says, "I'm following my passion — to help others reach their full potential." Her primary client audience is, of course, engineers and their employers.

Another engineer formed a partnership that offers

Table 3. Commonly encountered mid-career "mistakes."		
Possible Mistakes	√	**Possible Solutions**
Failure to be "hands on" regarding your career; leaving career progress up to your employer, recruiters, or fate.		
Failure to be curious about the world beyond our immediate employment base.		
Failure to maintain your "physical plant" (body, clothing) appropriately.		
Failure to routinely assess your skills relative to personal goals and marketplace realities.		
Failure to invest in your skill development, even if it means doing so without your employer's help.		
Failure to reinvent yourself periodically.		
Failure to keep the motivational flame burning brightly.		
Failure to be open to change.		
Failure to learn how to better serve the existing or emerging marketplace.		
Failure to serve your own needs.		
(Others you may think of)		

human resources consulting services to primarily technical and engineering firms. Still another opportunity is to buy a franchise or business. Seek legal and financial counseling before making such a dramatic leap, however.

Happenstance

All too often, happenstance comes in the form of negative news: a merger, reorganization, acquisition, reduction in force, or early retirement. So, it's no wonder that some engineers are feeling stuck or vulnerable. While we can't control these events, we can control how we react to them and what we do about them.

Introducing yourself

Consider that you will have 20 seconds to introduce yourself to a stranger at a professional meeting. Jot down how you would describe yourself. What key points would you include?

Now consider that introduction in light of potential opportunities. Does it describe you in a broad or narrow way? Does it help the listener understand your "portability?"

Defining yourself too narrowly may influence your own thinking about what paths are open to you. It will surely narrow the thinking of any potential employer or networking contact you meet.

By mid-career, most of us have made some career mistakes, many of which increase our vulnerability to negative happenstance. Perhaps maintaining a network has been sacrificed to total immersion in work or family. Or maybe we're not as physically fit as we could be.

Use Table 3 to evaluate your career mistakes. More importantly, determine what actions you can take to ameliorate or eliminate any errors. For example, if "your physical plant" isn't as fit as possible, join a fitness center, develop an exercise plan, and stick to it. Ask your family to help — they may welcome a more heath-conscious diet or join you in a daily jog. Or, if you've failed to reinvent yourself periodically, discuss this with a friend, a mentor, or a career coach. Volunteer for a task you would normally shun or invest in learning a new software package and teach others to use it.

Beyond correcting career mistakes, there are other steps that can offset the effects of happenstance. Enroll in a career planning workshop. Many colleges and universities now offer these programs to their graduates. The Five O'Clock Club has expanded its face-to-face seminars to include personalized telephone and e-mail counseling. The Forty-Plus Clubs around the country are another source of seminars and counseling, as is the American Association of Retired Persons.

Just as investment clubs and bridge circles have formed, there are now career clubs. Join or start one within your AIChE local section to help yourself and other members. If there isn't enough interest, join forces with another engineering society to expand potential membership. Watch community newspapers for listings. Contact your alma mater to see if it has one or is interested in creating one.

Retain a career coach. Many of your colleagues may already have a money manager or a fitness trainer. Investing in a career coach may reap even better dividends in the next stage of your employment. To identify a coach, contact outplacement firms listed in the phone book, your company's Employee Assistance Program, or the International Association of Career Management Professionals (www.iacmp.org) for a referral.

Develop and work the plan

You've answered *Who am I?* and *Where am I going?* Now it's time to plan how to get there.

Consider your goals in light of your circumstances, what you know and don't know about opportunities, your education and credentials, reputation, network, values, financial situation, and the number of years you expect to work.

Circumstances. If you're stuck or at risk, this is the time to plan for your future. Staying in your current situation may be the preferred choice. It need not be the only choice, however. Knowing there are alternatives is liberating, but insufficient. Planning for and working toward alternatives is one way to ensure future employability.

What you know and don't know. With 20 or so years of experience in an industry, you know it inside out. What you don't know about other sectors can be filled in through research. Informational meetings, in particular, are valuable to get an insider's view of what's happening in an industry, what employers need, and how your skills can fill employers' needs. A half-hour with a contact in another industry or function can be very enlightening, and if you look upon the meeting as an opportunity to exchange information, both of you will benefit.

Watch Internet employment boards — as much to learn what employers are seeking as to learn what opportunities exist. Register at these sites for e-mail alerts when your background matches an opportunity posted. Visit engineering-related chat rooms and join the discussions. Examine the AIChE classified ads regularly. Participate in the online chat about this article (at www.processcity.com). Search the Internet for chemical engineering employment — you may find more than you expected.

Search patent websites to learn how your experience fits in with an employer's business. Company websites, as well as the U.S. Patent and Trademark Office database, are good places to begin. Remember, an employer will hire you because you fill a need. Knowing the needs lets you present yourself as the solution.

Education and credentials. You invested a minimum of four years to earn a BS in chemical engineering; now is the time to add to that investment. An employer may underwrite an advanced degree, perhaps an MS or MBA. Or, you may have to do it at your own expense. An MBA could open the door to business consulting work. A P.E. license adds stature and credibility to an independent consultant's business and is required to practice as a chemical engineer.

Reputation. A solid reputation within your company, the chemical engineering profession, and the community adds to your value and visibility. A motto for career management is "Who you know and what you know count. Who knows you is equally important." Known personalities are invited to take on new assignments; recruiters call them, knowing employers want them. A good reputation can have a halo effect. Being known as successful translates into an expectation of success in a new assignment.

If you are targeting a new industrial sector, join the appropriate AIChE division and/or a relevant professional association. Volunteer in order to make yourself known.

Network. As you explore possibilities, identify those who can create links for you with potential targets, who can help you think "out of the box" about your future, and who may even need your talents. If your contact list is sparse, begin to build a mutually beneficial network. The phrase "what goes around comes around" is very true for networking. Those who are generous to others who ask for assistance are repaid many times over.

Consider current and former colleagues, vendors, and customers, as well as less-obvious associates such as friends, members of your church, and businesses associated with your hobbies or interests. List the contacts you now have or could develop in each of these areas. Trace these contacts backwards, forwards, and sideways to places that could use or benefit from your talents. Contacts often know who's in need of talent to solve business problems.

Values. You know what you need to be happy. Explore possibilities that match the core values you identified earlier.

Financial situation. Today's "merge and purge" atmosphere demands that we prepare financially for possible unemployment, with a six-month reserve being a norm. To effect a major career shift, that reserve may finance a degree, specific skill acquisition, or the services of a career coach.

Retirement. As Seidman points out in the accompanying article (pp. 32–35), retirement is being redefined. Use your mid-career planning to ponder how to spend the second half of your work life.

Closing thoughts

The future that Cobb predicts is different from the one we know. It is, however, full of promise for those who take the time to plan their future. The questions are simple: *Who am I? Where am I going? How do I get there?* Invest now by envisioning where you want to be and taking the steps to ensure that future. CEP

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ELIZABETH FEEHAN is senior manager of career services for AIChE (Phone: (212) 591-7524; Fax: (212) 591-8898; E-mail: bettf@aiche.org). With more than 20 years of comprehensive human resources experience, she has counseled hundreds of professionals in creating and implementing career plans, as well as negotiating successful job transitions, both forced and voluntary. A mathematics major in college, she has an MA in counseling psychology from Manhattan College.