

State of the Profession:

Adaptation of the A/E Species

An Investigation
into the Origins
and Phenomena
Affecting the
Futures of
Architecture
and Engineering
Firms in the
21st Century

By

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and

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Lou Marines is the founder of Advanced Management Institute. He has been a publisher, consultant, educator, professional development program developer, association executive, and manager in the A/E professions for 31 years.

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Lou and Stu have been collegial associates, and friends, for 25 years. They've often worked together developing new systems, ideas, and products for advancing the industry ... such as beginning the AIA Continuing Education Program, beginning the Advanced Management Institute, and, now, conducting the research and developing the findings for ***“Adaptation of the A/E Species.”***

Executive Summary ...

Here are five primary observations that grow from this survey:

1. “DEPTH OF A SALESMAN”

Firms will need to be more oriented toward *enhancing their clients’ organizations* than ever before. While many are focused on becoming “1-stop shops” ... it’s more crucial to have leaders who can *think* that way, as some unique need will invariably surface that requires finding some resource outside your firm. The key will be for firms to have diagnosticians who can (1) listen *without* regard to technical discipline, then (2) assemble *whatever* resources are needed to solve the problem.

2. “THE CYBER-TOOTH TIGER”

Technology is having – and will continue to have – an increasing impact on both the services, staffing, culture, and profitability of firms. Movement of electrons will continually replace:

- Movement of paper, as firms go increasingly paperless; and
- Movement of people, as firms employ video conferencing as they increasingly work more globally, and as project webs sites keep everyone more informed, on a more timely basis.

3. “TAKE THE SECOND STAR TO THE RIGHT, AND STRAIGHT ON UNTIL MORNING.”

The future economy looks bright ... but should be leveling in five years. Firms that focus on markets and market shifts – rather than “projects” or “clients” – should do well. The better economy should also be bright for the environment.

4. “LILLIPUT AND BROBDINGNAG”

Firms have been, and will continue to evolve into either “Mega” firms or “Boutique” firms. The former will likely be a global organization of thousands, achieved via a series of mergers and acquisitions. (Some could emerge through an alliance of several middle-sized (i.e. 75-300 person) firms.) The latter will either be local firms who bring in specialists to serve their locality’s needs, or small specialists who work globally in a very focused niche.

5. “GOING WHERE NO FIRM HAS GONE BEFORE”

Firms will need a more diverse range of competencies in (1) business and entrepreneurial acumen, (2) communication and people skills, and (3) technical mastery.

Recruiting, retaining, and developing those competencies are the keys to success. New forms of leadership and organizational structure will also soon evolve.

In this Survey ...

First, you'll see a collage of raw data given in response to the specific question ... comments by the 37 CEOs interviewed that are roughly clustered according to similarity of topic. Next to each cluster is the number of people contributing to that comment collage. (The number does *not* represent any sort of priority or rating.)

Questions follow the principles of "The Mandeville Techniques" diagnostic process. They proceed from:

- The broadest forecasts about markets and trends in firms;
- To projected long-term issues;
- To more immediate issues; and then
- To important details affecting the future success of firms in our industry.

Questions are more open-ended – both in structure and in attitude. The intent was to elicit as full a set of perspectives as possible. And many "Why?" questions were used to understand interviewees' perceptions more fully.

Phone interviews of the 37 CEOs were conducted by Lou Marines, Stu Rose, and Trina C. Duncan. Many interviewees asked that they not be directly quoted by name. In order for them to be fully candid – the goal for this survey – we thank but will not be listing the names of the CEOs or their firms. Firms were chosen to represent a *variety* of disciplines, sizes, and geographies. That data is listed at the top of each set of "Interview Notes," which follows the survey summaries.

Second, after the collage of question responses, you'll see a description of the Themes that seem to emerge from the interviews.

And third, you'll see Commentary ... some "big picture" frameworks intended to expand your perspective – and to provide you with greater "learning" or insights from that question ... or bigger questions upon which to reflect.

Following the survey summary and interview notes, you'll also see a tabulation of 46 responses to a written survey about professional development trends in our industry. They add another level of detail to these findings.

Nothing, perhaps, could be more critical than the first question ...

Data Collage ...

Question I. (a) “What do you see as the future of the industry? Why?”

- 11 Optimistic, because technology gives AE firms the capacity to compete with the “Big 6” accounting firms. Optimistic, due to concern about the environment. Optimistic, because facilities in our niche become quickly outdated. Optimistic, in our niche, because student enrollment will grow until 2008. Optimistic, because the type of work may shift, but people are always building something. Bright, because our market is always evolving, and is tied to the domestic economy ... which looks good, long-term. Strong, based on the age of our infrastructure. Bright, because infrastructure is getting financial attention ... which should continue. We’re on the cutting edge of a 15-year wave – growth market; and we’re moving to more of a 1-stop shop to better respond to that market. The workload should be strong, until the Boomers retire in 10 years or so; then there will be a *lot* of open square footage! (Boomers will also start to pull a lot of money from their stocks.)
- 2 Shorter-term, clients are more willing to spend money now; they have it. It will likely taper in a few years. Short-term, stronger than it’s been; even conventional firms will see an upturn in their business.
- 3 In 10 years we’ll be confused by, but will figure out how to address markets that are *merging* (e.g. entertainment/software/telecommunication, or health care/long-term care.) We’ll have to stay light on our feet ... able to change rapidly; being stuck in a rut is *death!* Someone will show up with a better mousetrap. If we don’t stay *flexible* to the needs of clients – with a broader range of services from a project team – they’ll go somewhere else.
- 26 Further consolidation, with fewer larger firms. Firms need to be bigger, to compete with others (especially foreign firms.) Bigger firms, that are more global, with more offices globally, and with a *full* range of services (e.g. planning, design, financing, construction, operations, and full privatization) that are more integrated than today ... with one point of responsibility. Huge teams will dominate the Superstar specialists, as big firms want to do *all* the work. We won’t be in the “design” business, but in the business of providing “built environment services” with one point of responsibility. More complex, large projects, with clients wanting single-source providers. Big firms will have leadership, management, and technical skills in abundance; they’ll be better able to assess risk and reap higher rewards, acting as one-stop shops. We’ll evolve into a “Big 4” or “Big 6” and become “General Advisors” in everything from planning and finance, to human resources, facilities and facility operations. Big, full-service firms will be tremendously more successful; and could take over the world. Enormous consolidation, dominated by the engineers ... they’re the largest. Bigger firms are buying smaller firms ... until they have a complete 1-stop shop ... plan, develop, finance, design, build, operate, and even own (i.e. privatization.) It’s the same with suppliers and manufacturers (e.g. U.S. Filter.)
- 4 You’ll see holding companies made up of many smaller firms. Firms of 50 to 300 will form alliances; they’ll focus on creativity, and will have creative

synergy in their alliance. Firms will be more integrated between disciplines – and you’ll see strategic alliances between firms of different types (including contractors.) Acquisitions and mergers will continue; the future as currently structured will evolve to include: turnkey and strategic alliances.

- 11 You’ll see specialist, niche firms. There will be some “Superstar” work, by small specialty firms ... much of it localized. Boutiques will survive – but not necessarily do well. Evolving into fewer specialty markets – with a broader range of services ... operations, facility management, strategic planning, real estate management ... all linked to client financial management.
- 6 Within 20 years, a lot of very large and very small firms; none in the middle. More mega firms and boutiques; middle ground firms will struggle, as they can’t address all the business needs they need to address. Death of the mid-size firms ... 30 to 200 or 300. If middle-size firms are not part of a larger system, they’ll whither on the vine!
- 3 Local clients will want a single source “1-Stop Shop.” National clients will use multiple sources, for different services. Small town also likes a 1-stop shop; we’ll need to get in and do it all, sole source.
- 4 South America and Asia will be common markets within 20 years – like Europe – which will make it easier to do business. The environmental market will be global, as there will be more work *outside* of the U.S. A lot of global competition in twenty years; survivors will need capital, to do construction. The market is international, not “U.S.”; other firms come here, because client like fees that are a *lot* lower; so, we must go there. Foreign firms are also acting as subs to U.S. firms, to help lower our fees.
- 1 Design-build is limited, because owners want checks and balances.
- 3 More design-build – or variations – with more cooperation between different professionals; much fewer traditional bid packages. In 25 years, it’ll be almost all design-build. Innovative contracting styles ... more public/private partnerships; it eases financing problems ... especially cash flow.
- 1 Architects will take a secondary role, as *part* of a comprehensive service clients are seeking. As an independent activity it won’t exist – except at a very small (e.g. custom home) or very large (e.g. new international airport) scale. Concerns and needs go way beyond traditional “architectural” services, including: business planning, demographic analysis, funding, financial operations, and long-term management.
- 4 Margins will continue to be tight. Tighter profits – which cuts time for overhead management hours to address the issues we *should* address. Many markets are more of a commodity, therefore price is a greater factor. We need to find a way to operate – with integrity and quality – and still make money in the face of tighter fees.
- 12 Better understanding of client needs, and solving client problems; more focused on solving client problems than creating facilities. Firms will be more of an extension of client staff, including training them and providing

management help. More “Teaming.” We’ll be more *client*-based, not project-based, with strategic partnerships with clients. More of a consistent, creative product with repeat clients. Greater in-depth trust with owners; we’ll do more for them – though firm size won’t matter as much as our ability to think expansively. Services are evolving and clients are more results and performance-oriented; successful firms will link to client issues and to client success. Aspects of design are less important to clients – except as wrapped in a whole, including owning, operating, lease-back services. More package deals on contracts, in which we’ll do all of a client’s work for 10 years ... as a 1-stop shop ... plan, develop, finance, design, build, operate. It’ll happen for government clients at all levels, as well as most of the private sector. Less “engineering” and more “final solution” oriented ... with fuller services, such as design, build, own, and operate. “Buildings” are only a small part of the picture; the question (for a bank, for example,) is “*How can we increase profitability?*” and not “*How do we add more drive-through lanes?*” Clients see “Architecture” as almost in the way ... “*What do we do with that building?*” More focus on solving client business problems – helping them be more competitive – then working as a single-source supplier with a wider range of services. More focus on relationship-building, especially as integrity suffers at the highest levels of our government; clients want to *trust* the consultants with whom they work, as facilities involve a lot of money ... therefore we’ll see a lot more repeat and referral work.

- 6 The industry will be split: vendors will deliver facilities; others will be employees of large firms or clients. We’ll be infiltrated by large vendors (e.g. Honeywell, U.S. Filter, and Arthur Anderson.) Major vendors will sell directly to clients, which will cut the need for AE services; they’ll sell the facility as a package.
- 9 Automation will lead to even faster communication, which will increase project completion speed. It’ll be difficult keeping up with technology; there could be a backlash against upgrades because of the financial pressure it creates. But – if you’re not at the state-of-the-art, how do you compete in a technical business? Plus, if you’re in a commodity market, fees are tighter and there’s less money to pay for the technology. Computer technology – it’s happened ... now we have to keep up. Technology: clients, especially large corporations, are technologically sophisticated; they expect their consultants to be. But you need to be big to keep up (e.g. a server for 50 stations costs the same as one for 500.) The cost, per person, is less ... therefore larger firms can deliver services that smaller firms used to do. (It’s the same in law or accounting.) A lot more communication on the design team is happening via the internet; CADD will become more sophisticated, therefore we’ll need fewer non-technical, clerical, or drafting staff; less mail and more e-mail; faster communication. More emphasis on technology; those who don’t, won’t make it! New software enables you to do faster design with better cost control, a better ability to test options; it cuts time ... which opens dollars for exploring more design options or for more profit.
- 1 No change ... except maybe a wider variety of services.
- 1 More operations, less “centers” in our market (banking) because fewer people will leave their homes to bank.

- 1 Firms will need to get a lot better at “public involvement” – improving their ability to communicate with the public in live meetings, over the Internet, in newspapers, and on radio and television. “Go to the office and work on a project” is gone forever; people’s access to information increases their desire to be involved. Projects will virtually all have web sites, especially public projects, with meeting minutes and virtual meetings. We must be able to communicate *all* sides of an issues ... or others will!
- 1 We’ll be taking on more risks – bonding projects, or structuring lease-purchases, in which we own and operate the facility, with a 15 year reversion to the client.
- 2 Lots of competition.
- 2 Much larger projects, therefore firms will need to be better at long-term *program* management, in addition to project management.
- 1 Vendors and Accountants will hit a glass ceiling; the needs of AE client will exceed their knowledge base (e.g. factors affecting real estate.)

Themes ...

1. The Economic Forecast:

Absolutely *everyone* interviewed saw the future economy as “bright.” Brightest is the shorter-term, because we’re catching up with pent-up demand ... needs that were not funded or satisfied during the uncertain economy of the ‘80s and first half of the ‘90s. While many people felt the pace would not continue at so hectic a rate, they did feel as though we’re entering an era of longer-term prosperity.

Note some comments about shifts in the marketplace, however. Firms that do not evolve with the shifts may not enjoy the benefit as much as those who do adjust. Many of the CEOs interviewed asked that specific niche markets or geographies they felt gave them a unique edge not be shared. Yet, they were clear about patterns affecting entire markets ... laboratories, schools, municipal infrastructure, ports, airports, banking, etc.

Some saw longer term merging of markets, in which “entertainment, telecommunication, and software” might form some entirely new “market.” That form of longer-term speculation needs only occasional payoff to lay the groundwork for *years* of prosperity for a firm.

Finally, the consistent reference to the “global marketplace” – even from *smaller* firms – suggests that our U.S. economy and marketplace is so interwoven with that of other continents, that it cannot be viewed in isolation. For example, environmental concerns, such as air quality or water management, know no boundaries. And many firms either have branch offices overseas, or have merged or have alliances with overseas firms. Within a few years, having branch offices in other parts of the world will simply be as routine as having a couple of branch offices within the same state.

2. Shifts in client relations:

Thinking seems to have shifted from being “project-centered” to being, first, “market-centered” – as discussed above – then, within a market, being “client centered.” Several interviewees indicated that they are now turning away new clients that are likely single-project types. They commented that it costs more to do a first project for a client ... learning their preferences, how they make decisions, how they pay, how they like to be kept informed, how they deal with changes, expectations, etc. And ... they indicated that those clients tend to negotiate more to get a tighter fee.

Those interviewees also indicated that once they establish a trust relationship with a long-term client, they simply work collaboratively to identify needs, crystallize projects, evolve a scope of service that makes sense, and determine a fee that both of them see as “fair.” Work comfort is better. Work quality is better. Staff enthusiasm is higher. And profitability is better; one-off clients in commodity markets will use fee to differentiate, cutting profitability.

The trick ...

The client then expects you to be able to take care of *all* needs ... even those not even closely related to our traditional perception of what the AE industry does. We need to learn to think more as “problem solvers” than as civil engineers, architects, or environmental scientists. Whether or not a firm has “all possible capabilities” in the firm seems less relevant than the ability of our people to “think expansively” to work with a client on *any* issue, then bring the right technical expertise to bear on any given issue. (If we don’t, Honeywell, U.S. Filter, or Arthur Anderson will!)

Second, our conditioning is more focused on projects, which have a start and an end. We measure the project results, evaluate our performance and profitability, then move on. Now ...

We need to think of an unending continuum ... more like a marriage or long-term friendship that has no “start” or “end” but does have a series of events that occur over the years. Now sensitivity shifts more to the quality of the relationship, instead of the quality of a specific event. (Unintended disasters occur in the course of marriages or friendships; if the relationship is solid, we simply work our way through them.) If the relationship ruptures, the marriage or friend-ship ends. That means that firms will either do all of a client’s work, or none of it

Keys will be:

- Learning to gain a better *understanding* of a clients long and short-term goals and concerns ... for their organization (e.g. municipality, agency, corporation, etc.) Included would be our ability to think empathetically ... from a *client’s* perspective.
- Learning to think of solutions that may be outside the realm of physical facilities. (e.g. demographic analyses, market studies, public influences, and client strategic planning may cause shifts in client organization, staffing ... and then, perhaps, facilities.) The comment about “*How can we help increase the bank’s profitability?*” rather than “*How do we design more drive-up lanes?*” is an excellent illustration.
- Learning to work *collaboratively*. Traditionally, we get a project, go to our office, do the project, and bring solution to the client. Now, you may have an office *at* your client’s office. The client may be a working part of your team. A lot more “elbow rubbing” and less “go to my office and have solo time for project work.”
- Learning to focus on *client satisfaction*, not just the technical excellence of a project. It’s an all-or-nothing situation; if the relationship ruptures, your workload goes to zero; if you maintain a strong professional-client trust relationship, you’ll enjoy a flow of work, for years.
- Learning to deal with non-traditional *risk*. The best solution may require us to privately develop – plan, finance, design, build, own and operate – a facility ... or a school system or a water company.

It's a level of risk to which we're not accustomed. Yet ... it may be the best solution for the client ... who's depending on us to solve *all* of their problems.

For example, one supposedly "architectural" firm of about 30 actually only employs about eight architects, four interior designers, a demographer, three health care planners, a human resources specialist, a few MBAs with special capabilities in strategic planning, financial management, capital financing, and operational efficiency. It's the profile their health care clients need in order to prosper.

3. Trends in firm size:

The biggest picture, clearly, was to see an increasing number of "mega" firms and a large number of small, specialty "boutique" firms ... with not much in the middle.

If a small firm focuses on one or two or so *growth markets*, and can cultivate a set of truly *unique* capabilities, they can avoid being seen as a "commodity" and can enjoy quality project opportunities and stronger fees as a "specialist" ... much as a surgeon or attorney with truly unique capabilities can command a better fee and enjoy a healthy specialty practice. However, if either:

1. The supply-demand curve goes over the top, and several firms have the capability; or
2. The firm does not constantly advance their state-of-the-art skills that measurably differentiate them ...

... those same skills become a "commodity" and tighter fees mean a gloomy future.

The "mega" firms are already forming. An increased in the number of firms with thousands of employees, and offices located globally, is *already* happening. Once those firms have established strong trust relationships with, for example, their corporate clients, those clients will want the firm to help them deal with issues anywhere on the planet. The "mega" firms not only are covering global geographies, but are including, in their acquisitions, non-traditional capabilities ... so they can provide consulting services in:

- Human Resources;
- Real Estate Management;
- Organization Development;
- Strategic Market Planning; and
- Automation and Telecommunications.

However, while the "mega" firms approach being a "1-stop shop" ... the key client contact people still must think expansively. Some client need is bound to surface that requires bringing in someone from outside the firm. And often – "mega" firms don't have a current and easily attainable inventory of their internal capabilities.

The "mega" firms will also need a cadre of people with leadership, management and technical skills who can do truly *enormous* projects ... multi-billion dollar efforts

that may take years to complete and involve both clients and personnel from a variety of sites, globally.

The engineers will typically lead the formation of – and be the dominant players in – the “mega” firms.

Some “mega” firms may be “virtual” firms ... a strategic alliance of a large number of middle size (50 to 300 person) firms, with a creative synergy among different disciplines in their alliance.

4. Trends in Firms’ Services:

The “1-stop shop” is the consistent, dominant theme. The biggest trick is being able to think “outside the box” in terms of the technologies and disciplines that may be required to solve a client problem.

Second, interviewees report that they’re being asked by their clients to help them in areas that were internal problems their firm has solved, but that the client has not solved ...

- *“Automation. You’re more advanced than we are. Couldn’t you help get us up to speed?”*
- *“You just went through re-engineering for your firm. We need help doing the same thing ... can you help?”*
- *“We’re having trouble hiring the right people in this one function. Could you help us in recruiting and retention?”*
- *“You’re already hooked up with global telecommunication and project web sites. Can you help us improve communications between our different entities?”*
- *“Your project reporting system is actually better than ours. Can you install a similar system for us to use, internally?”*

Third, the current emphasis on “Design-Build” seems myopic. Interviewees consistently cite situations in which design-build is simply a small part of providing a client with an end-package that solves the client’s problem. A firm may house construction, financing, operations, and even management capabilities internally. Or – they could provide the same services through a strategic alliance or a sub-contracting agreement. The question is not ...

“Should we provide design-build or construction services?”

But, rather ...

“What’s the best way for us to provide those services?”

And fourth ... working more collaboratively with clients also means a growing number of public-private partnerships, or relationships in which our firm becomes an actual stakeholder, or owner, in the project ... not just a “consultant” or advisor

to a client. The shift will affect our liability, our capacity to take risk, our ability to deal with capital, our outlook, our profitability and, probably, our firm's culture.

5. The Impact of Technology:

Some interviewees indicated that they may be *skipping* a leadership generation in their succession planning, because the "thirty-something" people are fully in tune with technology and their "late forties" people are resistant to it!

Interviewees report:

- Increases in paperless work;
- Less travel and more video conferencing;
- Increased multi-site (globally) teams of clients and staff;
- Increased use of project web sites, to better inform the public, the clients, and technical team members;
- Increases in speed, necessitating more experienced people and fewer "support" staff and technicians;
- Increased use of e-mail for keeping everyone abreast of project progress on an almost daily basis; and
- Increased control systems that *integrate* decisions affecting project quality, schedule progress, or project consultant and construction costs.

The biggest problems ...

- The cost to stay current with technology. Clients expect us to be at the state-of-the-art ... but fees don't always pay what it costs. This is especially true for the small and middle sized firms, as the cost-per-person is higher; and
- Compatibility ... being sure all members of a project team – both clients and consultants – can communicate with one another;

6. "Other" ...

The only other comment that jumped out was the need for people in our industry to become much better in the broad field of "pubic involvement" ...

- Gaining acceptance from hundreds of citizens in a community, over either a municipal, county, state, or federal project ... or a private sector project that affects those people. They have so

much access to information, even “lay” people may come to meetings knowing more than we can imagine;

- Communicating in the media – newspapers, radio and television – which require skills (and a disposition) that not consistent with either our training or our demeanor; and
- Understanding *all* sides of an issue, rather than what we truly believe, (from *our* perspective) to be the “right” or “best” answer.

Commentary ...

1. The economy:

If you've followed the "Kondratieff Wave" – or the "Long Wave Theory" – you'll see that we likely entered the down side of the wave in the early 80s ... probably signaled by the crash of oil prices and agricultural acreage and the recession during President Reagan's first term. The early part of the down cycle is, and was, characterized by a large number of economic failures that were caused in large part by over extension during the previous growth period.

You'll recall a huge number of failures of savings & loan institutions and banks ... and daily stories about how major corporations – and even municipalities – were declaring bankruptcy, in one form or another.

As money became tighter, enforcement of environmental regulations became politically suicidal ... which affected the SuperFund program and project financing, and had a major contracting impact on our industry ... as our firms had become overextended, as well.

In the mid 90s, we edged to the second half of the down cycle, the "recovery" period – which is characterized by development and gradual emergence of new technology and business reorganization, as everyone adjusts for economic shifts.

In the wave's last down cycle, which began in 1929, the early 30s featured bankruptcy ... as new inventions (such as the diode) slowly evolved. In the late 30s and early 40s, businesses reorganized, and new technology gradually emerged. The growth cycle began in 1948, after WWII. And, with an increase in capital, the technologies hit widespread production ... in the form of television and the early computers. During growth cycles, products simply become more refined – as in color television, VCRs, hi-resolution large screen television ... or lap tops that can out-perform computers that used to fill buildings.

The interviewees' data seems an accurate projection of where we are on the current Kondratieff Wave ... near the end of the fourth cycle. By, roughly, 2004, the organizational turbulence – in our industry and in others – will likely subside. Then, we should again enjoy a gradual, long-term growth cycle. We will have adjusted to new technologies, new forms of communication, and new ways of practicing our professions. Turbulence will likely give way to more gradual evolution.

As the global economy improves, and the funding of projects that affect us globally becomes somewhat easier, we can then address issues that can become crises within a few years: global warming, water wars, global air quality, and global management of food production ... as China is on a long-term straight-line path to food shortage that will mean hunger for a fifth of the world's population by 2016!

1. Being in Transition:

If you ask most leaders in our industry ...

“What business are you in?”

The answers vary all over: *“Real Estate”* or *“Design”* or *“Infrastructure”* or *“Plan-Design-Build-Operate-Own”* or *“Consulting Services”* or *“Whatever our client wants!”*

Because of the turbulence in our marketplace, there’s a lack of clarity about what marketplace we’re in, and what our role is in that marketplace. We need to ask questions, such as:

- *“What business am I in?”*
- *“Who should I seek for partners”?*
- *“What type of people should I recruit”?*
- *“What knowledge and competencies are needed?”*
- *“What technology do I need?”* and
- *“How should I charge?”*

The less we focus, the greater the wasted effort, and the lower our efficiency and profitability. It’s more difficult to make solid decisions. And confusion among our staff means they’ll chase too many “opportunities.”

We need to explore global patterns ... and the “markets” that emerge from them. Then we need to select markets in which we can become involved for several years. From that, we can define a specific niche to fill. That create a *theme* that provides a focus ... and provides a focused set of guidelines for everything else we decide.

a) Managing “Mega” Firms:

As we seem destined to have a smaller number of huge firms,
how will we *manage* them?

As an industry, we’re *not* great “corporate” managers! We’re more practice-driven than profit-driven ... and are always running into problems of capital.

Professionalism - versus - Capitalism.

We could lose the former, but not gain the latter. Perhaps, if we do end up with a few “Mega” firms, they will develop a true management cadre. Several CEOs today do have *business* backgrounds, not professional backgrounds.

Some problems occur as professionals have shifted to capitalism ...

- Doctors bill for tests that really aren’t needed – because they own the testing company, and because they want to reduce their malpractice liability; or
- Attorneys bill for hours not actually spent.

Trust in “The Professional” has declined, as professionals shift to capitalism.

Then the government steps in ...

- Anti-trust suits; or
- Continuing education regulations.

Client preferences shift accordingly ...

Buying “Design-Build” is more like buying a product, from a capitalist ... instead of a service from a “Professional” you no longer blindly trust.

b) Global Competition:

Many interviewees talked “global” ... but didn’t reflect the true nature of *international* competition ... not just competition between U.S. firms. For example ...

- If U.S. firms are not positioned in accordance with EU rules; or
- If firms from other countries get government subsidies that enable them to charge lower fees ...

... we can be at a distinct disadvantage. Companies from other countries can then do end runs on our firms.

We need to learn how different cultures do business. Then, we can get to know the clients better ... how they think and how they make decisions.

Many firms have global offices that are like regional branch offices. They operate independently ... and not as a *global* firm, in terms of fully using their local resources to better understand and do business in that culture.

c) Managing for Creativity:

If “Mega” firms become giant managers ...

- Project Management;
- Program Management;
- Facilities Management;
- Real Estate Management;
- Construction Management;

... creativity could die. They’d become “cash cows” that minimize risks, to favor profitability. Then they won’t be able to attract the “best and brightest.”

If we focus on *trust*, we can take greater risk ... which can lead to greater creativity in architecture and engineering. Clients may prefer that. But ...

How do you engender trust if you have 10,000 mouths to feed?

Can you manage a “Mega” firm and also be creative?
That will be an exciting challenge for top management!

2. Looking at the Future:

Heads of most of the largest firms interviewed were more locked into “Business as Usual” ... “with offices everywhere” ... “and at the top of technology” than into questions such as ...

“Where will our next business be, in ten years?”

Leaders need to look out on the horizon, because the marketplace changes will obsolesce how we do things today. “Bigger, faster, better” isn’t the answer. Instead:

“Where will the marketplace be in ten years?”

“What services will it require?”

“And how do they need to be packaged?”

For example, if the next generation of clients grew up on computers, and have been having dialogues with people globally ... do they need “local” firms at all?

If “Mega” firms are seen as being more “Faster, cheaper, 1-stop full service” and as being more distant from their clients, as they think more about building their organization ...

And if smaller firms are seen as being more “Creative, changing, technologically advanced, and out-of-the-box thinkers” who have a richer sensitivity to their clients and deal more with specifics ...

How can the advantages of both be combined?

That’s a great question for managers of the future!

Data Collage ...

Question I. (b) What do you see as the future of your firm? Why?

- 1 We'll have a lot of intelligence in software.
- 3 Using technology better ... smart drawings, with data imbedded in them. We'll also become even more hi-tech ... better computers, survey equipment, testing equipment, etc. We'll be staying on top of technology ... Internet options, video conferencing, and electronic documentation.
- 2 We'll be able to do things more quickly, due to technology.
- 2 Greater profitability, through privatization and outsourcing. Greater revenue dollars per person ... with more highly skilled people in the firm.
- 3 We'll be a *consulting* firm ... not in the construction business. We'll have "management consulting" skills, to solve client problems. We'll have a broader consulting practice.
- 3 Improved profitability ... better in business ... more of a business culture. We are underdeveloped, and need more business-minded people, and less technology-driven people; our culture has been very technical and academic, not business-oriented.
- 2 Better communicators ... able to deliver anywhere in the world. With video conferencing, we can be anywhere in the world and feel seamless.
- 9 An enhancer of our client's processes; we'll reinforce our creative, competitive advantage. We'll do *whatever* a client needs in the "built environment" ... pre- and post- services (versus design-build). We'll have client-based relationships, not project-based, and will form strategic partnerships with our clients. We'll have collaborative agreements and partnerships. If we want new clients, we need a solid personal relationship; you can't get it by flying in and out and expecting to get a job. Our clients need us to understand how to improve their business ... we need to see *their* big picture. Clients want someone who understands them and can deal with all of their facilities, globally; they don't care about geography.
- 5 We'll be a 1-stop shop. Once we get "in" we want to be able to do *everything* on a sole source basis. We'll need at least 350-400 people to satisfy client desires for a 1-stop shop ... and still maintain efficient overhead factors.
- 8 We'll have new competencies, such as "human ecology systems," via growth and alliances. We're bringing in people to do different *kinds* of services than we've ever done before, such as: market research, or identifying land parcels for our-of-state clients. We'll be a fuller and fuller service company ... in fact, we'll have a *family* of companies to do it all. We'll need good systems to support other ventures, with growth in other service types, such as: presenters, com-puter

systems specialists, facility managers, and systems analysts. We'll have a diversified umbrella of companies, including a contracting company, a computer services group; we're constantly on the lookout for new services. We need to find partners to create a "Mega" firm that is *not* dominated by engineers; they can be too structured, over-disciplined, and checklist oriented – like the Dilbert comic; it's not fun and doesn't lead to particularly creative solutions. We're going to be bringing talented architects, engineers, bio-scientists, environmental scientists, communications and PR specialists, and planners into a large firm or consortium. They're now largely fragmented and need to be part of a central system; it takes advantage of technology and uses their skills in a lot of geographies. We'll be doing a wider variety of services.

- 1 Improved problem-solving abilities; helping clients look at the big picture.
- 2 We'll be attracting the "best and brightest" ... who now go to other professions. We are recruiting the best talent in the area.
- 1 We'll get past seeing "buildings" as an end product.
- 4 We'll be an integrated infrastructure services firm; technology will make us seamless ... we'll be able to pull together all our resources, regardless of location. We'll have more smaller, local offices connected by a hi-speed network.
- 11 We'll be a niche player – a holding company with many niche players, each focused on a specific market and each addressing all of a client's needs. We'll be a key player in each of our markets, with increased market share. We'll be reorganizing our firm along a "*client group*" basis, by market type. Then we can be seen as experts in that market; within each group will be the full range of skills needed by that type of client. We'll be staying in our current niche. We'll stay focused on the market that we have, and expand geographically into multiple metropolitan areas and into more clients. We're moving into new markets ... ones we've determined will last for some time. Our market demand is growing; public desire for improvements is strong ... and money will follow. We will have expertise in niche markets, so we can deliver *real* expertise anywhere. We're on the cutting edge of a niche in a growth market that should be at least a 15-year wave. The market requires us to be skilled in a variety of spin-off services ... all of which have virtually no competition. We'll be focusing on two or three project types, and really do them *well!* We need to increase the number of niches in which we're involved, for greater long-term stability; we'll probably buy a specialty firm in each new niche. We're positioning ourselves within our community to be seen as "the" interdisciplinary design firm.
- 1 Our niches will shift our culture and our image.
- 1 Our niches will give us greater esprit, which is tough in a large company.
- 11 We'll grow 10-20% per year, and be at 1000 by the year 2000, to take advantage of the current surge. We'll be bigger ... with a stable source of revenue from our relationships. We'll need to grow, in order for our younger staff to move up at a faster rate than the older people may retire ... and because we could increasingly lose work to larger firms. Doubling our revenue in 5 years, because the market is so strong. Part of the growth will come through acquisitions in

different geographies, because clients want us to be closer to them. We will have office in more large cities, so we can then expand the number of client with whom we work. Our firm will be much larger, and will cut across many re-gions – in order to become national, yet stay personal. We'll be 1500 people, in the ENR top 100, with 17 offices to saturate our regions. The large firm can respond to a wider range of client needs – which clients are seeking – plus ... “*I hired a 5,000 person firm!*” feels safer to a client. We'll either be part of a larger firm, or be much larger ourselves; mid-range (200) is awkward; plus – you need growth to keep good people.

- 3 We'll have offices in every one of our major marketplaces. We'll be more geographically diverse, with more branch offices, to support our growth goals. We will exist as a strategic alliance with other organizations.
- 3 We could end up merging with a large firm.
- 1 We'll be doing large projects, internationally.
- 1 We'll be taking more responsibility on projects.
- 1 We'll be more sophisticated in management and leadership.
- 1 We'll have significant difference in our management, moving away from consensus management to a more centralized management team ... it's tough to get consensus as you get over 400 people.
- 1 We're positioning ourselves to be *very* strong by training, coaching and mentoring ... and not just in technical areas, but even in personal finance, so our people are stronger when they retire.
- 1 Very bright! We're one of the only firms in our area looking at alternatives, and not sitting back with the good economy; we're constantly pursuing and questioning how to change and grow. We just can't sit back on our butts!
- 5 We'll be a global player ... physically and in attitude. We probably won't be based in the U.S. We'll be considerably more international; in 10 years, the geographic niches we've identified could be half our revenue. The language of the Internet is English, globally; CNN is everywhere. The rest of the world won't be denied the quality of life they see on TV. And communications and technology will facilitate the international development.
- 1 We'll have more individuals on teams, via a network.
- 1 We see increased ownership levels in our firm. That will make the firm have greater value, personal and financial, to more people in it. Broader ownership can also help provide the capital needed for expansion.
- 1 I see a lot of competition; Design-Build is bidding competition; innovative contracting styles will evolve, such as more involvement with public/private part-nerships ... that ease financing and cash flow.

- 1 Design-build should grow from being 15% of our work to 30% in a few years. Then it'll plateau; it's best for *big* projects (\$75 - \$100 million) because they're huge investments and it gives clients more protection.

Themes ...

1. Niche-Orientation:

One of most dominant themes that seemed to surface was the orientation toward niches. Interviewees seem bent on identifying (or continuing in) markets that look to have a strong long-term (10 to 15 year) life, and focusing all the firm's energy in those markets.

Several interviewees indicated that they might have a holding company with several niche companies within it. That helps each niche group build the expertise, the range of services needed in that niche, the image, the type of culture, and the vitality that all grow from the focus.

Within each niche, interviewees look to provide whatever the "full range" of services is for those clients. The specialists needed for those services need not be in the same office. They can be seamlessly woven together by technological communications ... intranets, web sites, video conferencing, etc.

Other than comments about a "family of niche firms under an umbrella company," only one interviewee suggested organizing the firm by client or market type. That's a radical departure for an industry that typically organized internally by technical discipline (ie the "Architectural Department," the "Structural Department," the "Environmental Group," the "Interiors Studio," etc.)

2. Client-Based Business:

An increasing number of interviewees seemed focused on their clients ... on looking at ways to enhance clients' organizations – with a more *empathetic* orientation.

A growing trend does seem to be surfacing about firms turning away from "one-off" clients and toward long-term "partnered" relationships. We get to know them – their goals, the pressures on them, and how they like to work; they get to know us – data or time or conditions that we need to work most effectively. Services are evolved collaboratively ... and fees are negotiated on more of a sole-source, "*What's really fair?*" basis. The trend seems clear for firms to do a lot more repeat work for a narrower number of clients ... and a lot less "chasing of RFPs."

3. An Unusually Wider Array of Services:

Based on the responses, firms seem likely to begin (or continue) departing from the traditional range of services to a *dramatically* broader range of disciplines.

Specialists that would not have been remotely considered as appropriate to our industry, just a few years ago, are now cited as being brought into our firms. For smaller firms, they could be part of an alliance ...

- Bio-scientists;
- Demographers;
- Systems analysts;
- Human ecologists;
- Facilities managers;
- Real estate counselors;
- Marketplace researchers;
- Presentation creators/coaches;
- Public/Private partnership managers;
- Organization Development professionals;
- Communication & public relations specialists;
- Computer systems specialists ... to serve our *clients*;

Whether done internally, or partially internally and partially through a seamless telecommunication network, most interviewees seem intent on becoming true 1-stop shops ... with a “*whatever it takes to meet the client’s needs*” attitude.

Finally, comments about having better “problem-solving abilities” – but looking at a “problem” from a *client’s* perspective – was beginning to surface. Not to see “facilities” as some type of problem, but to help clients improve their efficiency or profitability or market share or organizational effectiveness or public image or ...

1. Becoming Truly Global:

The feeling, from the sum total of the interviews, is that firms see “International” not as a passing fad. We must now *think* ... as citizens and as professionals of our planet, as opposed to of our city, state, region, country, or even continent.

The global business language is English, due to air controllers, the internet, CNN, and the perception that “*If you want to be a business person in the 21st century, you really need to know English.*” Yet, several firms are providing in-house language training to their staff. Plus – they’re having counselors brief people on customs and the “Do’s” and “Don’ts” of countries in which they’re either now working or are planning to work.

Modern jet travel facilitates daily access to most places on the planet at fairly reasonable prices. Yet, the ease of global telecommunications is making daily communications even easier and more inexpensive, as firms are already experiencing.

2. Firm Size:

Most interviewees seem intent on becoming large, global organizations in order to:

3. Be closer to clients who want it;
 4. Become an all-inclusive 1-stop shop;
 5. Do some enormous international projects; and
 6. Help clients feel more secure about their hiring decision.

Smaller firms saw themselves as either growing or, in most cases, being acquired by a “Mega” firm. All were intent on taking advantage of the current strong economy to achieve their growth goals.

The “Mega” size would enable firms to:

- Have an office that would be “local” to virtually any client;
- Have all the specialists they might need under one roof; and
- Compete more effectively for desirable clients and projects.

While some comments could stem from “ego,” most felt their “Mega” size was essential to competing in the coming marketplace. Potentially changes to their management style of company culture to accommodate their “Mega” size would simply “have to happen.”

6. The Technology Impact:

Consistent with the trends identified in the first question, firms seem committed to evolving “somehow” as technological advances occur.

Most forecast technology that’s already here: smart drawings; Internet; video conferencing; electronic documentation. The sense is that:

1. Technology will continue to evolve, giving us more options and more use applications; and
2. Use of technology within our firms will spread, as people become comfortable with one application, then become curious about how to do more.

Within ten years, “*How we do things in this firm*” ... our normal project procedures, could be *wildly* different from they are now.

7. Being “The Best”:

While not as extensive as many of the other comments, some interviewees did discuss their need to focus on building their internal strengths ...

- Recruiting the best talent they can find, instead of waiting for resume’s to come to the firm;
- Expanding training, coaching, and mentoring programs, to cultivate the talents they’ve recruited;

- Learning to become better leaders and managers ... are constantly exploring *alternatives* in markets, geographies, services, technical solutions, technologies, and whole futures.
- Expanding the ownership levels in the firm, so the talent they've recruited is more committed to *staying* in the firm.

8. Profitability:

Again, only a smaller number of interviewees stressed this issue, for its own sake. Yet, the *means* by which they each saw themselves improving profitability was not simply "greed" motivated ...

- They saw it expanding via much higher pay for much more highly skilled people, who were more experienced specialists and had expanded their impact through more advanced technology.
- And they saw the need to begin bringing people into firm leadership who were more business-minded than technically-minded – with full understanding that their firm's culture could shift. Yet they saw it as essential to developing greater empathy for their client's goals and concerns.

Commentary ...

1. The economy:

Given that it does take time for us to truly *think* in different ways, this could be one of the most exciting shifts in our lives over the next ten years. It could lead to solving some of our greatest global problems ... air quality, water management and quality, food production and distribution, and education. It can enable us to bring our very best technical minds, globally, to bear on issues that will have enormous impacts on the quality of life for everyone.

2. Clients over Profits:

Most interviewees discussed the need for enhancing profitability, and for thinking more like “business people” ... to be both more empathetic and responsive to their clients, and to be more profitable themselves. Yet, their dominant focus in looking at their firms’ futures centered about their clients ... and about being able to respond more fully, with a broader scope of services.

The question is:

- Does the firm have, as its dominant value, a quality professional practice? However, in order to conduct that practice, it must necessarily operate a “business” ... which is then seen more as a “*necessary evil that we must do to achieve our professional goals.*”
- Or does the firm have, as its dominant value, operating a successful business ... and the professional practice is the “widget” ... the vehicle for generating a desired business outcome.

Most firms in our industry are really professional practices, the former ... that is reflected in the orientation shared by interviewees. The assumption seems to be:

“If we have the broader range of services that clients are seeking, we’ll get more sole-source repeat work ... which lowers our marketing costs and increases the volume of services we provide.”

Not necessarily so. If IBM were to achieve 32% annual profit, many people would celebrate ... “*Big Blue is back!*” But if a firm in our industry were to achieve the same level of profit, reaction – even internally – might be ... “*They’re unethical!*” We have hosts of firms that shoot for 14% profit and settle for 7%. While we’d all like to do better, part of the problem comes from our real orientation about what’s “Fair and Reasonable” profit.

A few firms in our industry do achieve over 30% every year. Those principals ...

... do think more like “business people.” They’ll use a bond with a client to cut marketing costs, multiply the volume of work sold, and equal or exceed previous profit levels. Their stock value would increase ... because it is worth more.

While the attitude reflected by the interviewees is positive, don’t expect it to automatically jump profit levels.

1. Becoming “pure” diagnosticians:

Interviewees consistently discussed a greater flow of repeat business and providing of a greater range of services ... a “1-stop shop.” But no one discussed *how* they planned to help their client contact representatives listen for issues that went well beyond their own expertise and background ...

- A civil engineer whose client needs help in “human resources,” to set up a program for recruiting and retaining top people, may be feel uneasy when the client asks for help in that arena.
- An architect who client needs help in re-engineering a division, and in changing that division’s image, to help them better market some new widget, may also feel at a loss.

Technically, “diagnostics” is totally independent from our training in specific disciplines for solving problems. Yet, people need to be given training in how to listen for *any* range of issues – comfortably, without being an advocate for *any* solution – and then how to think “expansively,” and commit to bring the right resources to bear. Otherwise, a client will “sense” that a firm’s representative seems uncomfortable, and will turn to someone else.

No interviewee discussed any plans for giving client contact people such training.

2. Running the “Mega” firms:

Most interviewees have technical backgrounds. Many with engineering backgrounds have either received MBAs or have taken in-depth management training at such places as the Harvard (or Stanford) Business School’s 12-week summer program. Is this sufficient background for leading and managing organizations of 10,000 or 20,000 or more people?

Can we develop the same level of expertise
– in the top management of our firms –
as an Arthur Anderson
or an IBM?

No interviewees discussed evolving some form of program for cultivating a cadre of people who could manage a “Mega” organization. Without some form of top management development program ...

- Will we compete as successfully with the Anderson Consulting or U.S. Filter type of competition? Or ...
- Will we be able to maintain the creativity that was so widely expressed by interviewees, or will we become “Mega Cash Cows”?

3. Technology and staffing:

The second impact of technology was the sense that firms may have fewer support people, and more senior people. Those are types of people who can make the fast decisions that are enabled by the technology.

That potential could have a significant effect on our staffing profile ... and on how we cultivate or recruit those “experienced people.” In fact, more interviewees indicated they’d probably do more recruiting than developing ...

“It’ll cost more in starting salary. But – they’ll hit the ground running! We don’t have the time or money to spend in developing junior people, when the experienced people can operate – with technology – so much more efficiently. It just doesn’t pay!”

Where do the college graduates get their experience?

“Somewhere else.”

People in their 30s or early 40s seem to be prime targets. They grew up on computers, so the technology is second nature ... and they enjoy new evolutions in that technology. And they have 8 to 20 years of experience ... making both their productivity and their ability to make quality decisions appealing.

But, if one firm can “steal” a person, can’t someone else do the same thing a couple of years later? Do we end up looking like dogs chasing one another’s tails?

And – what’s the long-term impact on salaries?

“One of my best people just came to me, to tell me he’s accepted an offer from another firm. We’re paying him \$55,000 plus a full range of benefits – which is already higher than we should be paying him. The other firm – a good firm – offered him \$80,000! How can they do it?”

If certain markets are becoming more of a “commodity,” will clients pay the somewhat outlandish salaries being offered to these people?

Are the interviewees’ visions for “being the best” really in tune with their behavior?

This impact of technology could pose some vital “human resources” issues.

Data Collage...

Question II. (a) What marketplace changes do you anticipate in 5 years? Why?

8 More design-build in 5 years, (perhaps less 'm 10 years). Government is doing it now. And clients are becoming more sophisticated, and are shopping around for design-build firms.

1 Clients will continue to expand their emphasis on one point of delivery ^ the "1stop shop" ^ but in a way that's much broader than 'design-build.'

3 Real estate consultants will become a major part of the industry 'at the expense of AE's, because they'll be controlling projects. (CM and Program Management aren't satisfying clients, so this other service group will emerge.)

2 Greater appreciation for the environment, therefore more life cycle costing. More cost-benefit analyses to reduce liabilities.

4 Greater speed of response. Client planning takes a long time, but when they decide, they want their facility now! They're very market oriented. Their planning cycles used to be longer; now they look, at most, two to three years out.

1 Greater complexity.

1 Building technology will come out of the dark ages.

5 'Environment' will be a major market in 5 years, due to public concern. There will be greater environmental sensitivity on projects. Watershed management is just in its infancy, and will accelerate. Corporations are becoming "greener" so the public will buy their stocks. The agriculture industry has been exempt, though they pollute a lot! Farmers and aquaculture operations will begin to be held accountable. More AE money will be spent on environmental issues; it's been 5- 10% of fees, and is growing to 20-30%... but should plateau.

1 In occupational safety and health, it'll be less regulatory driven and more profit driven... to reduce costs, such as the number of sick or injury days. (One hospital alone can save over a million dollars.)

2 Clients are more informed and demanding ... they know what they want.

1 More regional offices.

1 Home builders will become national. Clients win therefore want us to communicate with each locality, for greater sensitivity.

1 There will be less surveying. (Technology is replacing it.)

1 More client/consultant teaming, and fewer Raps ^ moving to 1-point responsibility, including financing. We'll be working with corporations and developers to help them determine what they should do, and where. More services requiring non-traditional support, to deal with unusual needs.

- 1 Greater use of a "Master Design Firm" in airports.
- 1 Small clients in regional and niche markets will still be differentiated, therefore will have different needs, services, and pricing.
- 2 Big clients will be simplifying their lives, therefore will increase outsourcing.
- 1 More public/private partnerships, to compete for investment capital.
- 1 U.S. companies will find it easier to work globally, due to a bottom line focus.
- 1 Asia will be back.
- 1 International work will increase substantially, especially in 3rd world countries; they'll need infrastructure ... transportation in all modes, telecommunications, water and wastewater management.
- 1 New administration and politics in the U.S.
- 1 In biotech, medical, and nanotechnology, labs will be a lot more specialized.
- 1 In chip technology, they throw buildings away after 5 years, because they be-come obsolete; the goal will be to find re-use for these buildings.
- 1 A lot more buildings will need 'clean' technology, due to pollution or vibration.
- 1 More leisure time, as boomers begin retiring, therefore leisure markets will grow rapidly in 5 years.
- 1 Growth in 'Commercial Markets' (esp. offices) in the U.S. and Asia; design will be shaped by the developer.
- 3 Schools: K- 12, universities, and all transportation modes. (Schools will be more hi-tech, and won't need libraries. If Texas builds a new school every day, it won't catch up with the demand!)
- 1 Clients will expect better understanding of the effects of space and architecture on people (e.g. how it affects recovery rates, in hospitals.)
- 5 A booming marketplace. The Fed will loosen up spending ^ such as the airport and highway trust funds. That's a big stimulus! (Utah will be spending over \$3 billion in three years, and they're not a huge state.) More infrastructure work highways, water, wastewater, sewers, and electric. The municipal market will have renewed funding - particularly in water and sewer. (North Carolina alone will be spending over \$12 billion over 5 years!)
- 1 A huge amount of work will come from electric utility deregulation - especially in transmission. People want options, but the distribution and transmission systems are not yet able to deliver.

1 More money will be spent in transit for cities ... transit systems (theoretically) don't pay their way ... except they're a lot cheaper than widening highways!

1 Intermodal (i.e. container shipping) will grow, because the Asian market is driving it. Even with their problems, they're growing ... just at a lesser rate. U.S. rail systems are at capacity for freight movement; rail is like a "land bridge" between ships and trucks and distribution centers.

1 A lack of construction labor will slow highway work, so firms heavily dependent on that market may have a downshift. Also, as work shifts to repair, rather than new, less engineering is needed.

1 Resorts will need to be in tune with local culture ... more ecotourism.

1 Tremendous growth in very high-end homes!

1 Hospitals will have more focus on architecture and landscape architecture, to promote greater healing.

1 Not a lot of change in 5 years; the economy should continue for that duration, and maybe afterwards.

3 The economy won't be as strong as it is today ^ but will stronger than in the 80s. Tax laws are shifting, to encourage developers. The economy can't continue at this pace forever; our success could lead to a trade war, which can hurt us, with oil control.

1 The federal government has devolved itself of many issues; authority will rest with state, county and municipal governments. Few grants will be around, therefore, they'll need help pulling their act together ... strategic planning, financial management, and funding.

1 The telecommunications market will be less in 5 years.

2 More competitive.

2 Markets such as municipal infrastructure should be relatively stable, but client service expectations are changing; they want it done faster, better, with more electronics, and for less money. Greater cost effectiveness for our services.

1 State governments are beginning to encourage development in churches and schools and are talking about investing in tourism and retirement.

2 Strategic alliances between small and medium firms, or between small and small firms ... to provide a specialist coupled with a local firm in many specialties. It's easily done with video conferencing, e-mail and clients with notebooks. It's portable and transient; no offices or files needed. Local firms will act as "boutiques," dealing with local codes, permitting, and fieldwork.

1 More use of technology, delivering information and services over the Internet. 3-D computer modeling construction documents will move away from paper.

1 The Internet will change marketing; a client can place an ad on the Internet that can be seen globally. If we're in that specialty, well spot in on the net. Clients get better specialists, and specialists will serve a larger geography.

1 Continued client emphasis on bottom line ... with increased emphasis on unit costs, capital costs, and getting leaner and leaner.

Themes ...

1. Differing Marketplace Perceptions:

a) The "Up" Market.

A large number of interviewees truly expect the next five years to be a "boom." The demand is huge and diverse. And money is available... from a variety of sources.

Roads, Ports, Rail, Airports, Mass transit; all transport modes.

Education of all kinds... public and private K- 12, and colleges.

Hi-Tech facilities of all kinds, due to need and fast obsolescence.

Municipal infrastructure of all kinds.

International work, especially Asia and, 3rd world countries.

Electric utility work, sparked by deregulation.

Leisure and resort and retirement, for aging boomers.

Housing of all types... from national builders to hi-end custom.

And offices and industrial and commercial property recycling.

Many interviewees looked at the total marketplace, and were 'generally euphoric.' Many were more sensitively focused to their firm's markets, with more specific reasons for their euphoria.

b) The "Up' Environmental Market.

An unusually large number of interviewees see pressure for environmental activity shifting. Rather than being regulatory driven, they see it being motivated by actual corporate need, for two reasons:

1. To improve their stock value, they need to be "green." A huge number of investors are focusing their purchases on companies or entire mutual funds that are carefully audited for environmental sensitivity.

2. Looking at the 'big picture' ... it costs less. Greener companies are enjoying a reduced number of employee sick or injury days ... as well as fewer lawsuits. Now projects will feature cost-benefit life cycle assessments.

Public influence on governmental entities is leading to a maturing in their approach to "the environment." Rather than putting fingers in the dyke, governments are forming, for in-stance . . .

. . . Consortiums of water districts to manage an entire watershed. They're setting up predictive models, and are beginning to manage water quality and quantity in order to achieve a better and more cost effective result . . . without the lawsuits and stress.

c) The Maturing Market.

A sizeable number of interviews also saw the marketplace in five years not being as strong as it is today . . . but stronger than in the 80s. They don't believe it can continue at the current pace. Some saw niches, such as telecommunications, as tapering. Some observed that federal grant programs won't be around to support municipalities. As a result . . .

They also saw the marketplace in five years as becoming more competitive.

2. The Maturing of Design-Build:

A second marketplace trend that many interviewees cite was the increase and spread of the use of design-build services. They saw more clients using it. And they saw more sophisticated clients as beginning to "shop" design-build services ... increasing the level of competition between design-build firms.

Longer term, however, they saw the amount of design-build work tapering, but the focus on 1-stop shopping continuing. In a sense, they see "design-build" as simply a first phase in a trend for clients to continuously expand the breadth of services provided by a single point of responsibility.

Commentary . . .

Responses to this question are consistent with those of the first question, about the longer-term economy. And they reflect comments made earlier about the Kondratieff Wave. They're also consistent with the notion that we should be at the start of the next long-term growth cycle around 2004, should lead to a gentler, long-term growth.

Turbulence in the marketplace, such as . . .

More extreme economic fluctuations;

Constant mergers and acquisitions; or

Rapid shifts in client expectations . . .

. . . should begin to stabilize. We'll likely experience greater evolution than revolution.

However . . . the trend towards clients expecting a single point of responsibility seems clear. Firms that can develop their skills in:

1. Diagnostics . . . listening for the full range of a client's needs, goals and concerns, in order to understand things from their perspective;

2. Assembling resources . . . being able to provide everything a client needs, whether it's under one roof or not ^ and whether it's ever been a part of your traditional "professional services" or not;

3. Developing action plans . . . to totally solve the client's problem, or achieve the client's goal . . . in the client's terms; and

4. Client Service Management . . . following through, to ensure the problem is solved or goal reached, to ensure client satisfaction with the entire process, and to see how the effort fits with coming efforts (i.e. context.)

Marketplace demands for firms to think as pure problem solvers . . . without regard to any specific technical discipline . . . may take some adjusting. Firms that can develop a cadre of people with that capability should do well in the coming marketplace.

Data Collage ...

II. (b) How do you expect your firm to be different in 5 years? Why?

- 2 We'll be telling clients: "*We'll take care of your world-wide needs.*"
- 2 We'll have alliances with different enterprises.
- 2 Technology will give us better service, for more money, anywhere in the world.
- 4 We'll be more geographically diversified; global.
- 2 We may be merged, to penetrate Asia and for capital resources. We'll be a part of something else, or a holding company ... subcontracting resources.
- 1 We'll have a more diverse range of clients, especially recession-proof clients.
- 1 We'll have the same services.
- 1 We'll have a better quality image.
- 9 We'll have better skills in technology, strategic planning, program management, business, multiple team leadership, communications, risk management, project management, and marketing – to be more aware of industry needs. We will be working in ways we've *never* considered, as they're changing daily. We'll be partnering with a lot of new people ... a "mega" network. We'll have an umbrella company with central marketing, HR, accounting ... and then all sorts of technical capabilities in different service centers. Our broader range of services is already starting and will continue.
- 1 We'll have greater staff diversity, with business or law school graduates as project managers ... AE's don't seem to have the skill that clients want.
- 1 We may have a relationship with a builder.
- 2 We'll be more of a "consulting" firm, not necessarily doing "buildings." Today we're in the "consulting engineering business"; in 5 years, we'll be in the "project delivery business" doing whatever's needed to solve the problem.
- 2 We'll have more services; they'll be different for different clients.
- 2 We need to increase entrepreneurial spirit in the firm; clients are demanding it ... but we're having problems finding people who are entrepreneurial. We have to more entrepreneurial, and benchmark against law or consulting firms.
- 2 We'll have better social skills. Better communicating ability.
- 1 We won't be in any "commodity" business.
- 6 We'll be bigger. Probably 30-40% in 5 years.

- 1 We'll have more young staff, to cope with the labor shortage.
- 1 Our senior people may be itinerant; some will practice alone – available for specific projects.
- 3 We will have identified successors to current management in 5 years; then we can begin to prepare them, over the next 5 years. We'll be bringing people in to take over – working toward our next succession. Managing finances and relationship transfers will be critical. 60-70% of our ownership may be people from other firms – part of a “mega” network.
- 3 Wisdom and technology will be more mated, feeding each other. We'll go from CDs to total web-based data management.
- 4 More emphasis on technology, both software and communications; it's the only way to provide the service that clients want, and to do the projects bigger firms can do. Technology is the only way to meet client demands at tighter costs. We'll have a seamless connection with clients and contractors.
- 1 We need to be better at getting more capital, as the amount needed to keep up with essential technology is increasing.
- 5 We'll become more of an agent, partnering with clients. We'll be more “client-focused” than “project focused.” Clients are looking more and more for people they know and trust, once they're pre-qualified with standards (e.g. ISO-9000). We'll have better quality control of our clients and our relationships with them; we need a flow of repeat business, not single victories. We're getting away from competitive market situations, and will be doing *full* service – plan, finance, design, build, operate, and even lease.
- 1 We're entering a new market – one that has a lot of needs and isn't satisfied with what they've received for services. Once we've developed our systems for responding to them – and are getting a flow of work from clients in that market – we'll look for other client types that are frustrated.
- 1 We'll be working on different kinds of projects.
- 1 We'll be more fragmented, design oriented, and younger.
- 1 Our client base will be the same.
- 1 We'll be driven to be as efficient as possible, in our administrative practices and on projects. Technology will help ... the younger staff isn't afraid of computers.
- 1 Better educated.
- 3 Small, horizontal teams working on computers, on more projects; more project principals and fewer “worker bees.” More senior staff – as strong project managers – with a flatter organization.
- 1 More of our leaders will be people with technical skills.

- 1 More complicated project management; contract and legal issues require more time and a better paper trail. As we convert to new technology, we're also having more difficulty assessing old technology – how to have a permanent document of a facility?
- 1 Better systems – in communication, project management, and computing – to help more “average” (available) people be more effective.
- 1 We'll have fewer errors ... there's less tolerance for failure.
- 1 We'll pay more and be more family- and people-oriented ... to protect our assets.

Themes ...

2. Diversity:

b) In skills ...

Perhaps the single most consistent response was the addition of a *wide* range of skills. Most were skills that are atypical of AE firms ...

- Law
- Business.
- Marketing.
- Construction.
- New technology.
- Communications.
- Human resources.
- Risk management.
- Strategic planning.
- Project management.
- Program management.
- Multiple team leadership.

Perhaps the most succinct comment related to being in the “consulting” business, and doing *whatever* is required to solve any specific problem.

c) In geographies ...

Either through an expanded number of offices, through alliances – or both – firms seem consistently oriented toward being able to work on projects that are virtually anywhere in the world. They seem to *expect* that a client may ask if they can help them by doing a project in some remote site. And they seem committed to being able to do so. This was perhaps best captured by the “1-stop shop” comment ...

*“We’ll be telling clients:
‘We’ll take care of your world-wide needs.’”*

d) In clientele ...

Interviewees also commented about having a more diverse range of clients, to ...

- Help their firms achieve greater stability;
- Be in some essentially “recession-proof” markets;
- And avoid being trapped in lower fee “commodity” markets.

In each market, they see themselves as having “partnered” relationships with their clients. Their primary focus is their client, not their client’s project. The orientation seems to be:

Cultivate a solid professional-client trust relationship, then ...

do *whatever* the client needs to have done ...
wherever the client needs it done.

3. Bigger:

Most interviewees believe their firms will be bigger ... considerably bigger ... in the next three to five years. Some thought it would stem from natural demand ... a growing workload leads to growing staff. Others thought it would also happen through alliances and acquisitions.

3. New organization and leadership:

A surprising number of interviewees discussed changes that would be evolving in their firm's structure and leadership.

1. Successors would be identified, and perhaps even begin to take over the reins, within five years.
2. Firms will likely be flatter, with more horizontal teams, higher levels of technology, and senior people acting as strong project principals and leaders.
3. Successors may be quite a bit younger. Some interviewees even suggested they may skip a generation, because the younger professionals aren't afraid of technology ... which they see as the key to organizational and project success in the future. The next generation also seems to be more entrepreneurial.
4. Successors will also need business skills, to manage finances – particularly to ensure the firm can keep up with new technology.
5. Some successors may be from other firms, as the “mega” networks evolve.

Several interviewees also discussed the need to build a more entrepreneurial spirit in their firms ... through recruiting, through restructuring, or through changes in leadership. They see their biggest competitors being law or accounting or general “consulting” firms, who are more entrepreneurial.

Finally, as young, energetic, technically charged leaders take control ... senior professionals in firms may simply serve as internal consultants. They may have their own practices within the firm. They'll serve clients with whom they have long-term relationships. And they'll serve as consultants to other teams.

4. An emerging “cyber-culture” ...

In the next five years ...

Interviewees see hardware and software and technical wisdom fusing ... feeding each other, seamlessly ... forming a true “Next Generation.”

Commentary ...

1. Transition:

Ownership transition should not be an “event” every ten or fifteen years.

It should be an *ongoing* process of development and succession ... part of a regular, ongoing career track. Then development of people, and management and leadership skills – and eventual “succession” of ownership and leadership – will be a “small” issue. And such transitions create no disruption in the firm ... because the firm is *always* in an evolutionary transition.

2. The Technology “Awe”:

An inordinate amount of attention seems to be paid to “technology” – and the mass impact it will likely have on firms. The awe, however, can skew our resources away from *thinking*. Technology isn’t a new God. We still need to think strategically, innovate, and develop enduring relationships ... with understanding and trust. Even with technology facilitating new forms of communication, we’ll need to “rub elbows” in a face-to-face mode, to maintain an interpersonal bond with clients.

Then technology can be helpful.

Our industry is largely introverted, and technically oriented. Therefore, we often rely on “technology” to pull us out of the fire. Our “people” skills are usually the source of our greatest discomfort ...

- We have a tough time sharing bad news.
- We’re often accused by clients of having poor listening skills.
- We don’t gather constructive feedback on a regular basis.
- Confronting and being assertive are difficult, for most.
- And we also suffer from limited self-esteem – hence ...

“High demands and low fees!”

Interviewees therefore reflected a natural comfort with the *tasks* that have to be done. But – being “busy” can be an excuse not to really think ...

“There’s no time!”

The push for project completion can cause us to feel victimized. But we create the situation ourselves, bowing – sometimes too quickly – to client pressure. “People” considerations are often just given lip service ...

- Do we gather and use positive feedback about our best assets to get more work done?
- Do we listen to clients ... and *then* plan our response?

Data Collage ...

II. (c) What new businesses will you be in? Why?

- 4 Construction.
 - 1 Program management.
- 4 Facility management.
 - 1 Telecommunications consulting.
- 3 Strategic Planning consulting. Business strategy development.
- 2 Managing and staffing buildings.
 - 1 We'll be equity partners with clients.
- 1 G.I.S.
 - 1 Training, about infrastructure maintenance.
 - 1 Anything – so clients can downsize and outsource.
 - 1 Same business – but in new geographies.
 - 1 New forms of project delivery and project management.
 - 1 Helping clients deal with political situations.
 - 1 Selling information to clients; knowledge and creativity -v- drawings (eg maps).
- 2 Management consulting.
- 5 No new businesses (i.e. services) but new markets, including residential and mausoleums. Corporate facilities – strong growth market in own geography; Hydroelectric work in Asia, as China and India will have huge shortages in the next 10-15 years. More private sector work. Infrastructure (-v- buildings) – roads, bridges, sewers. REITs.
 - 1 Public policy negotiations.
 - 2 Design, build and maintain computer network systems (for municipal clients).
 - 3 More operations and maintenance. Contract operations.
 - 1 New product research.
 - 1 Environmental services.
 - 2 “Suitability” analyses to help major clients locate in new communities.

- 3 More “consultant-like” ... adding new services as needed.
- 1 I.T.S. (Intelligent Transportation Systems) work.
- 1 Constructability reviews.
- 1 Claims management.
- 1 Privatization – finance, design, build, operate.
- 1 Real estate management.
- 2 Project financing. Brokering finances for investors who have money, and who want to buy into development projects.
- 2 Development planning. Front-end project development.
- 1 Brand identity.
- 1 Development impact assessment.
- 3 Ways clients can use technology to help their businesses run more effectively.
- 1 More “doing deals for ourselves” than for others; we do a lot of work for which we aren’t paid ... why not benefit from the knowledge myself?
- 1 Graphics.
- 1 Marketing.
- 1 Facility automation services.
- 1 Industrial hygiene.
- 1 Specialty processes within chip manufacturing.
- 1 We’ll own and operate water and wastewater systems, as a private company.

Themes ...

1. Going with the Flow:

Responses to this question varied all over the map! Yet they did maintain a relative consistency with their perceptions of client demand evolution, and their own comfort zone. The most frequent new services mentioned were those related to the market trends for more 1-stop shopping ...

- Strategic planning;
- Develop;
- Finance;
- Design;
- Build; and
- Operate.

Several, however, indicated they would simply need to take on the mentality of a “consultant” and be prepared to do *whatever* the client needed done.

2. New Markets:

Rather than services, as “businesses,” several interviewees felt they’ve be doing relatively the same things ... but for different clients. Most were quite clear about a specific trend that was about to affect them. They saw their movement into the markets they cited as already beginning, and then growing for five years.

3. A Few Entrepreneurs:

A few firms that indicated they would increasingly be in ownership positions ...

- As equity partners with developer clients;
- As developers, taking advantage of their technical knowledge;
- As developers and owners of projects done for a single client – with ownership often reverting to the client in 15-20 years; or ...
- As owners and operators of companies providing a service that others aren’t providing ... but which is needed (e.g. water and wastewater to high growth areas outside municipal boundaries.)

Commentary ...

1. The Need for Regular Client Diagnostics:

All interviewees shared perceptions about businesses they envisioned their firm entering, or expanding into, further. And many indicated they'd be as flexible as their clients needed ... to go with the flow, and do whatever the client needed.

However, none described a *pro-active process* for systematically identifying client needs for new services ... or how they'd like those new services delivered. What many may need is a system by which, for example, they sit down on an annual basis with key representatives from a client organization, and ask questions, such as:

- “What are the biggest trends affecting you over the next 5 years?”
- “What are the biggest issues you'll be facing in the next 2 years?”
- “What kinds of support will be most helpful to you, in addressing those issues?”
- “What kinds of help are you needing that no one – neither us, nor anyone else – is helping you with?”
- “If you were president of our firm, what would you have us do that would make us even more useful to clients like yourself?”

Projections of new services based on our perceptions are necessarily colored by our own biases and comfort. Once a regular client-centered diagnostic system is in place, clients will spell out what they need; it's in their own interests!

2. The Need for Champions:

Interviewees shared a wide range of perceptions of new services – and new markets – in which they saw themselves immersed in five years. None cited the *vehicles* by which they would get into providing those services.

If no one in the firm is particularly interested in cultivating their skills and in leading the firm's effort to develop a new market or new service ... it won't happen.

Following diagnostics that identify a new need, firms need a system for ...

- Identifying “Champions” – people who are *avid* about wanting to develop and provide the new service, or get into the new market. New market or new service development that's simply assigned to “good soldiers” – skillful people loyal who are to your firm – is not enough. It takes *passion* to make it happen.
- Sponsoring champions. With time. With money. With enabling authority ... to legitimize each effort.

Data Collage ...

II. (d) What businesses will you have left? Why?

- 4 We won't be in the "contract documents" business; we'll link design & construction, like Boeing. Negotiated relationships with the client and contractor eliminate the need for working drawings.
- 2 Surveying. It's cutthroat; new technology cuts the need for as many people.
- 1 None, because our core business relates to business needs, which continue.
- 1 We may not still be in the "AE" business.
- 1 Cost-driven businesses – in favor of businesses requiring management skills.
- 1 Any commodity business – except if useful for training young people.
- 1 Design ... it's our lowest margins.
- 2 Drafting services; demand is there, but it's a different mindset than approaching clients with expansive thinking.
- 2 Smaller projects – we can't do them profitably. Small assignments – especially from one-time clients; they just get in the way.
- 1 One-shot clients; they become a distraction – plus they often play games and squeeze fees. Until we really get to know a client, we can't be that innovative.
- 2 Public projects; can't afford to do them. They're defined on a conventional, unsophisticated basis; we can't deliver sophisticated services at their fee scale – but they want it. Conventional DOT highway work – and other markets with a "commodity" mentality.
- 1 Hard dollar construction, without it being part of a total package ... and done directly for the owner.
- 2 Spec office buildings, as a market. Speculative development; it's just too risky. When you win, you win big; but when you lose, you lose bigger!
- 1 Residential development; it's simply too competitive, has too small a margin, and developers are squeezing prices too hard.
- 1 Design-build; it's not panning out the way we thought it would.
- 5 None. Can't think of any; our markets all have longevity. Don't know; no forecast ... but if something is not in demand, it's gone!
- 2 Clients we can't serve well, or who buy on price, not relationships ... and who may take forever to pay us. Clients who just "use" us, then don't want to pay.

Themes ...

2. Selectivity:

Whether owing to their current full workload or their euphoria about what they perceive is a strong, long-term economy ... a huge number of interviewees became quite selective about work they'd do and not do. However, the criteria varied ...

- “Commodity” markets were seen as having high marketing costs, low fees ... and high client expectations they couldn't meet.
- Clients who were “not good to work with” in some way ... price squeezing, slow pay, high risk, or those who were only one-time clients – with whom a solid long-term relationship wasn't likely.
- Services that were not fun, not profitable, or went against the kind of expansive, problem-solving mindset they prefer.
- Small projects, such as quick “studies,” seemed to break a more comfortable flow that larger projects afford: *“They get in the way!”*

3. “None.”

A fair number of interviewees were taken back by the question. Most saw themselves as providing services in markets that would still be needed in their horizon.

7. The End of Drawings?

Combining ongoing comments about more partnering with clients, fuller ranges of services, and increasing technological sophistication ... several interviewees saw a definite reduction in the amount of “contract documents” and drawings that would be needed. Comments such as ...

*“We're in the information business,
not the drawing business!”*

... may be painting a picture that's about to be realized in the next few years.

Commentary ...

The stronger economy is helping interviewees muster the courage to focus on things that matter to them, and to others in their firm ...

- The markets they'd *like* to serve.
- The problems they'd like to solve.
- The clients with whom they feel most *comfortable and productive*.
- The services they're most effective and comfortable providing.

More interviewees seemed stronger, and refused to be seen as “commodities” or be a part of entire markets that were looked upon in that light.

It's an issue of “self concept” ... or “self worth.”

At its ultimate core is how we each truly value ourselves ... our time, our brainpower, our desire to attend to specific issues, our billing rate, and even our ability to say “No” when something doesn't feel right ...

*“This is not the work I want to do ...
nor the people for whom I want to do it.
I'd sooner sit in the park and feed the pigeons!”*

It's unfortunate to only be able to express this attitude when an economy is strong. Given that we must constantly look to where strong markets are, pro-actively, it would be more personally and professionally fulfilling to be able to live this way all the time. Our contributions to ourselves and to others would be much greater.

Data Collage ...

II. (e) What new competencies will your firm need? Why?

- 1 Consulting skills.
- 8 Financial aspects of AE solutions. Financial impact. Finding money. Economics – understanding the client’s business (in manufacturing.) We need to be able to talk in *their* terms, so we can hit “business goals” rather than “facility budgets.”
- 5 Understanding clients’ planning needs and internal requirements. Empathy. Being customer focused. Managing projects from a *client’s* business perspective.
- 1 How organizations can be optimized with their facilities.
- 2 Working with communities. Public acceptance.
- 1 Marrying technology with how buildings go together.
- 1 Helping clients understand our processes.
- 1 Real estate management planning.
- 8 People issues. People skills. Managing people. Social skills. Providing employee reviews; affirmative action; interpersonal sensitivity. Managing *people*, not projects.
- 4 Leadership. Leadership skills – the courage to step out and be problem solvers.
- 1 The ability to be nimble, and change.
- 3 Uses of information technology. How to manage information technology. Information management; how to organize data so a client can find it.
- 4 Managing and delivering projects, from financial analysis to completion. Project management – managing complex projects with a *range* of disciplines. Being able to manage *all sorts* of projects for clients.
- 1 Project control – minimizing losses and errors; use automation most effectively.
- 1 Time management.
- 1 Understanding our markets better, by learning how to do market research.
- 1 Better communicating the value of information.
- 1 How to be prime, in design-build relationships.

- 2 How to work together and use technology better, to solve problems.
- 2 Team building.
- 1 Strategic thinking.
- 1 Participative management.
- 1 How to grow people.
- 10 Entrepreneurial skills. Business skills.
- 1 How to describe and sustain “Big Picture” thinking.
- 1 Understanding the development process.
- 1 Creating designs that operate efficiently.
- 1 How to improve the *speed* of response.
- 11 Communication skills. Better written and spoken skills. Understanding what clients do, so you can help them do it better. (Mandeville is really helpful here.) The ability to communicate with the public. Listening skills. Really listening and hearing what people are saying – versus thinking of what to say when they stop talking. Strong communication skills within the project team, within the firm, with the client, and with people who are affected by the project – e.g. Communities, zoning boards. Understanding client concerns, developing responses that work, then describing and validating the benefits. Understanding where a client is coming from, so we can better serve them.
- 1 Group facilitation skills; it’s becoming more and more critical.
- 4 Computer literacy. We need to be as good as the kids coming out of school. Everyone needs to be fully versed in computer graphic information, especially 3-D technology.
- 3 More software knowledge; staying on top of what’s out there .. and how to use new software to solve client problems. How to seize on things that technology lets us do.
- 1 Computers and communication – being able to “plug in” anywhere in the world.
- 1 Construction management.
- 1 Project life cycle costing.
- 1 Risk management, to optimize return on investment.
- 1 Getting in early, to *lead* a project.
- 3 Better marketing people. Better ability to build and sustain relationships, to win projects, to assure client satisfaction, and to identify upcoming work. Abil-

ity to self-motivate, take risks, initiate and build trust relationships, and think of long-term business impacts.

- 1 Contracting; how to transition from professional services to contracting.
- 1 The ability to provide more services to our niche market – which is significant.
- 1 Managers: top managers, branch managers, and office managers; we need aggressive people who aren't terribly structured, with good social skills that are quick to move forward.
- 1 Cultural diversification, including foreign language skills, to work with international clients.
- 1 *Thinking* outside the box, then *moving* outside the box, then *accepting* what's happening outside the box.
- 1 Process engineering knowledge, starting with understanding client needs.
- 1 Finances – what it costs to do what.
- 1 Continuous learning – how to get information, how to organize it, and what to do with it, once we've got it.

Themes ...

The biggest themes relate to skills that aren't traditionally taught in our university curricula ... or internally, in our firms.

2. Understanding “Business”:

The primary intent of most comments here was to help professionals understand or be more empathetic toward their clients. For clients, physical structures (of a wide variety of types) are a means to *their* ends. Interviewees are feeling a stronger need to be able to learn *why* a client needs what they believe they need, in order to be more responsive.

The major thrust of their business interests revolved around money ...

- How it flows on the client's side;
- What the physical structures cost and how that cost fits into a client's larger perspective;
- And how funding can be secured for a project; and
- How a structure can be used to optimize a client's organization.

3. Entrepreneurship:

Here, interviewees expanded beyond business skills into how they need to develop a greater sense of entrepreneurship among their people. Partly to relate better to their clients. But partly to also run their own firms in a more business-like way ...

- When and how to take risks;
- When and how to venture into new markets or service lines;
- When and how to invest resources in technology or facilities; or
- How to “read” and control, or maximize, return-on-investment.

4. Communications:

Shifting to a topic that's typically an enigma for technically oriented people, a huge number of interviewees see the communications skills of their people as being particularly crucial to their firms' futures ...

- First, listening and understanding people – colleagues on project teams, clients, and third parties (e.g. in the community) better. (The Mandeville Techniques was often cited as being particularly helpful, here.); then ...

- Being able to speak and write – in terms the lay public understands. The speaking could be to a client’s project team, to a client’s Board ... or to a larger group from the “Public.” And the writing could range from technical reports that can be read by non-technical people ... to newspaper articles about a project.

4. People Skills:

A profession dominated by technically oriented people is often “blind-sided” by a corresponding lack of interpersonal skills. Interviewees cited several dimensions:

- Social skills – what to say or do when no project is at the focus of the discussion or activity;
- Employee reviews – giving and receiving feedback;
- Managing people – but more the personal side than the project tasking side of the equation;
- People issues – especially, dealing with topics that have nothing to do with work ... problems at home, drugs or alcohol problems with the employee or his/her close relatives, serious illness, or interpersonal problems among the staff, which can affect morale.

5. Technology:

As this topic has been at the forefront of current and coming concern for the firms, it’s no surprise that this surfaces as a key competency. Three domains seem clear:

1. *Computer literacy* – reflecting a concern expressed by many interviewees that the “older” people (well above 40!) who are moving into leadership positions “*can’t keep up with those kids coming out of school.*” The issue may be even more pronounced when looking at the “truly ancient” people at the top of the firm! This new generation of young professionals is the first to really grow up on computers, probably since they were four years old.
2. *Software knowledge* – reflecting a concern that if they don’t stay up with new software, their competitors will “leave them in the dust.” Some new versions of certain software may not be revolutionary. Some, however, may really open new possibilities ... to provide unique services, to do things more quickly, or to provide a service less expensively. While professionals are working on projects, who’s surveying for new software applications?
3. *Uses of Information Technology* – ways in which staff, other consultants, clients, or the public can access and use information ...

*“What are the best ways to access and apply information
– on different projects, and for different people?”*

Commentary ...

Ideal new professionals may become known as “Consulting Capitalists.”

Start with people who are basically “bright” ... and are curious, and have a passion for learning.. They need to be self-confident, so they can be more comfortable with change ... and can let go of “the old way that’s served us well for years.”

These people need other traits, as well ...

- *Leadership* – an ability, learned or innate, to cause others to want to follow or support their ideas;
- *Entrepreneurship* – an ability to assess opportunities and risks, and to lead others into new markets or services or ventures that will have a major positive impact for the firm;
- *Strategic Thinking* – an ability to map out a solid and detailed set of actions that will cause goals and ventures to be achieved; and
- *Out-of-the-Box Thinking* – an ability to shed paradigms that have served us well – in school and in professional practice – that are simply not as relevant to new trends in a marketplace, in how we provide professional services, in the range of service we provide, or even in how we contract for those service;
- *Coaching* – to help clients and staff cope with change;
- *Comfort with diversity* – including diversity of people, diversity of geographies, diversity of projects, diversity of services, diversity of technical backgrounds;
- *Projecting trustworthiness* – as much of the coming environment will key to people buying from and working with people they trust; and
- *Business climate savvy* – including understanding the business infrastructure of the firm, and of clients.

What interviewees seem to be seeking are people who are a wonderful blend of true professionalism *and* capitalism.

Data Collage ...

II. (f) What would be the best way to acquire those competencies? Why?

- 14 Hire. Recruit from universities. Steal from competitors and clients. People with both AE and science backgrounds that are computer literate. Hire qualified people; can't grow the talent internally, fast enough. We're hiring from target geographies, with payoff in five years. Just as we have to keep marketing, we need to keep recruiting; we can't seem to develop a "farm team." Being *very* selective about who we hire. When we find someone good, we hire that person – whether we need the person at that moment or not; then we figure out the best way to use that person. Use a headhunter to steal people who fit the mold.
- 1 Leadership training.
- 8 In-house seminars and coaching – us teaching each other. If you're forced to teach something, you *really* learn it! Develop internally. We do project manager training "our way" so it fits our style ... and in two languages. It's taught by upper management, which tailors it to our firm ... and builds a better bond between management and staff. We create awareness to increase receptivity, create processes and procedures so they know what's expected, then give training.
- 2 Mentoring.
- 3 On-the-Job training.
- 2 We use joint ventures as a learning vehicle. We try to team with the *best* ...and learn from them, as we do the project.
- 4 Do training. Heavy investment in training. Last year we averaged over 60 hours per employee; it'll be going up. Vast quantities of training ... ideally; actually, it's *fear*, because staff can solve problems that senior people can't be-cause they're out of touch with technology.
- 1 Internal and external programs.
- 1 Seminars that are hands-on, skill building; then those people can evolve their skills and become mentors of others.
- 4 Outside seminars. Send people out for training if our culture isn't relevant, such as with ISO 9001 or finance. Outsourced education. We're constantly looking for seminars offered by people I trust, such as at our local university or PDR.
- 1 Software training, so you learn it *when* you have the need; you're more motivated and can apply it right away.
- 1 Video conferencing; it's a quick way to get answers from experts. Move electrons, instead of people.

- 1 Create multiple career paths.
- 1 Encourage self-development.
- 3 Aggressive internal training in project management, computer technology, communication skills.
- 2 Via strategic alliances – with clients and with other consultants.
 - 1 Retain outside help to teach skills we don't have.
 - 1 Encouraging people to go back to school; we'd pay.
 - 2 I'm not sure how.
 - 1 I'm not sure; some desired traits – “out-of-the-box” thinking or entrepreneurship – may not be teachable, but more of an inherent attitude or quality.
 - 2 We're involving people in developing new tools to manage the business; that gets their heads into it! We identify the tools that different people need, then show them how to use each tool.
- 1 A Ray Gun that zaps new competencies into them as they come into the office!
- 1 The easiest would be to sell our firm to someone who already has those competencies.

Themes ...

1. Hiring:

An extremely dominant, and perhaps surprising, theme was the overwhelming propensity to gain expertise through recruiting. Because so many firms had to cut back during the difficult economy of the 80s and early 90s, the industry became depleted of talent ... many of whom left for careers in industry. Where the norm has been for a “top company” to grow its own talent, many interviewees were wary:

*“It’s going to take two to three years
before college graduates become useful.*

*“And when they finally are productive,
they leave for another firm!
No sense of loyalty!*

*“Therefore,
we might as well wait until
someone else has trained them, pay more;
but ... we’ll have people who are useful on Day #1.”*

Of course, right behind recruiting comes “retention” – as others will try to steal the people a firm just stole! (In fact, some interviewees were nervous about engaging headhunters. As they help your firm by finding someone good, they’re also meeting people in your firm who could be candidates for another of their clients!)

2. Training:

While recruiting was the biggest response to this question, training ... *heavy* doses of training followed. The dominant source for training was seen to be in-house resources, especially in “Project Management” or computer applications or other topics firms feel are “*tailored to the way we do things.*”

The training can incorporate a firm’s tools, such as M.I.S. or W.B.S. or their methods for tracking schedule and costs. Implementation is higher. And the most experienced – and esteemed – people in the firm are at “the front of the room.”

The training also builds a better bond between senior and junior staff.

External sources for training included local universities and “outside experts.” The topics cited were those not as relevant to a firm’s culture, or beyond their level of current expertise. Finance. Entrepreneurship. ISO 9000. Communication skills.

3. Coaching:

Comments here broke into three categories: On-the-job coaching; use of external associations with people who have expertise not available in the firm – such as alliances or joint venture partners; and ...

mentoring.

Many interviewees commented that they were brought up through their firm by a senior person who “took them under their wing and coached them.” They saw that as the most meaningful form of staff development. Partly because it’s what they received. Partly because every taught is totally tailored to how the firm does things. And partly because it cements commitment to the firm.

A second source of coaching was through associations with other consultants ...

- Subcontractors;
- Joint venture partners; or
- Through strategic alliances with a specialist.

The third form of coaching was “Mentoring.” The term typically was used to refer to someone who provides a sounding board and advise to someone ... but not typically surrounding specific project issues. Career development. Pursuit of an advanced degree. Dealing with problems encountered in the firm.

Commentary ...

Development of the whole person, not just their technical skills, yields a richer background ... and ultimately enriches a firm's services.

No comments were evident about the asset value of the brainpower ... the intellectual capital that the firms commit considerable funds and energy to develop. Therefore, many conduct only half-hearted efforts toward building the knowledge base of the firm.

Hiring the "Best and Brightest" could help the entire firm – and the profession – as the next generation takes over. However, "Bright" isn't as important as having the capacity to build trust, and to learn from others. But the intent could be a lot better than simply picking from resumes that come across the firm's desks.

Many interviewees confuse "Coaching" and "Mentoring." The former is more immediate, focusing on improving project delivery and client relations performance. The latter focuses on long-term career development. It includes dealing with a lot of personal issues.

Young people need both.

(In fact, most of us, at all levels of our careers and lives need both.)

Data Collage ...

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

- 11 Management/leadership succession. Mentor transitioning new partners, so they're effective. They don't need to think like me, but they just want to stay technically focused. The role of sustainer is different than founder, but the next group has no leaders! Having a transition that works smoothly.
 - 1 Bringing up young people, who will be in line to lead after us.
 - 1 Leadership – someone who can see and understand where business are going ... and can motivate others to transition themselves to the way they need to be.
 - 1 Spreading the leadership; it's been all me, so far.
 - 1 Developing our strategic thinking capacity, at all levels.
- 3 Defining the right target. Sustaining our vision – and designing tactics to implement it, then reinforce it.
- 6 Being aware of the value of technology. Using new technology. Integrating the next generation of technology. Getting greater value from our investment in technology. Staying up with technology.
- 15 Finding the right people. Recruiting and retaining. The shortage of superstars. Recruiting and developing people ... then treating them better than commodities. Getting people to not jump ship for better financial offers. Finding people who see things they way we do – “systems” thinkers. Finding people who want to make a difference, not just “*Do a job.*” Finding and attracting new employees – and training existing. HR is where it's at! We have to out-recruit other firms or we won't be able to reach our goals (managers, not technically-based people – they're a dime a dozen.) There's a shortage of good people.
 - 1 Holding onto mid-management people, and growing them.
 - 1 Reinforcing our reputation as a “great place to work” so we attract talent.
 - 3 Employer-employee relations; young people care more about family than firm; loyalty is a problem. Younger people won't work evenings or weekends to get a job done.
 - 1 Finding strategic partners who think as we think.
 - 2 Achieving a competitive advantage. Marketing, maintaining client contact, and keeping costs down.
 - 1 Getting into value pricing relationships.

- 1 Undoing onerous government overhead rates.
- 1 Sustaining and improving the quality of our product, during growth.
- 1 Reinforcing aspects of our culture that got us here.
- 1 Developing our design-build capability.
- 2 Becoming a global firm. Increasing our international visibility, to get more substantial commissions ... and more recognition; it feeds on itself.
- 1 Identifying what our service mix should be.
- 1 How to be in new relationships with our clients, so we're not adversaries.
- 2 Mastering the "economics of practice" ... how to invest in training, technology, and research with a high probability of *profit*.
- 1 Helping everyone get our egos out of dominance, so we *listen* to clients.
- 6 Getting the *entire* firm to adjust to changes in client expectations; it's a new way of thinking. If we don't change, we'll just fade into the background. Convincing others in the firm that change is necessary ... they don't *feel* the need to change. (This isn't as big an issue, though, as I can fire the ones who don't adapt!) Being able to recognize changes and react to them: where markets are heading and what we have to do to get there; change is painful. Surviving change – in ownership, in partner firm, in technology; the environment will be anti-traditional, therefore more uncomfortable. The ability to transition to new scenarios – new visions, new leaders, new resources.
- 1 Reprogramming recent graduates, so they're productive.
- 1 Breaking down barriers between us and other professions ... and the communities we serve.
- 1 New regulations in the HR arena – work against closer workplace relationships.
- 1 Getting on top; staying out of competitions and price beating ... and becoming a 1-stop shop that makes deals happen, sole source.
- 1 Marketing and client satisfaction; the work is there to get, but you have to know how to win and *retain* clients.
- 2 Financial; we need *consistent* profit, through repeatability in operations, so we can hire, train, and keep people. If we don't have a stable environment, we can't plan for new services, markets, or technology. Profitability.
- 1 Formalizing our structure; we're informal, verbal, and undocumented.
- 1 Passing on the knowledge that we have.
- 1 Keeping the mindset that we're *one* firm, not a bunch of independent offices.

Themes ...

1. Finding the “Right” People:

Inasmuch as firms are the sum total of their people, a huge number of interviewees see their ability to recruit and retain as key to their coming success ...

“H.R. is where it’s at!”

Many see younger people as more oriented to their families and personal lives than to professional goals. (And they often seemed frustrated at understanding what motivates those people ... especially “GenX”ers or younger.)

Interviewees don’t seem to believe they can succeed strictly by growing their own talent. The problem: Once they’ve stolen good people from other firms, they want those people to then develop such a sense of loyalty that they won’t want to be stolen by any other firm!

Focus is also on good, mid-level, experienced *managers*, as opposed to technically oriented people.

And ... while they all need “bodies,” they do still want people who *fit* within their definition of “right.” This varies with the culture of the firm. Some firms that are on the hi-tech edge expressed a desire for “systems” thinkers. Others wanted people who “want to make a *difference*, not just do a job.”

2. Management and Leadership Succession:

As many interviewees saw transitions occurring over the next five to ten years, many saw handling that transition successfully as being one of their biggest challenges. Two focuses dominated ...

1. Finding people to take the reins.

Many saw “sustainers” as being different than “founders” ... and felt a lack of leadership emerging from the group that, in terms of age, is the most likely pool of people from which to draw. Plus – many interviewees saw people in that next pool as being more technically and project focused, and not nearly as interested in top management positions and responsibilities.

2. Being sure the transition is smooth.

Many found their own transition into leadership fraught with all sorts of difficulties – and want to see if it isn’t possible to have the same transition occur “seamlessly and effortlessly” so that no negative impact on the firm results.

3. Changing with Changes:

Many interviewees also see their *entire* firm’s ability to change as ...

key to their *survival* in coming years. Areas of change cited include:

- Markets served;
- Services provided;
- The vision of the firm;
- The firm's resources; and
- The entire project work scenarios.

The problem typically cited ...

*“The staff don't feel the need to change.
But if we don't change, we'll fade into the background!”*

Interviewees also acknowledged that the coming environment is likely to be “anti-traditional” and in flux ... which is always more uncomfortable. Yet, their ability to adapt, as a firm, was seen as one of the great keys to their future success.

Commentary ...

Reflecting back to earlier comments about the Kondratieff Wave, the challenges cited by interviewees reflect expectations of dealing with a lot of turbulence in the coming years. An umbrella comment might be ...

“Reinvention and Growth of the Business.”

Within this umbrella are dimensions that include ...

- Finances;
- New technology;
- Client relations; and
- Recruiting and retention.

The challenge of the leader is the growth of the company. Not just in size, but also in the quality of their ...

- Staff relations;
- Client relations; and
- Services and work products.

Too much of the focus is on dollars or growth numbers, as indicators of success. That's not as much the case in a strong market.

Second, many interviewees reflected no sense of fiduciary responsibility, to be sure the firm is better off when they leave the helm.

Succession, recruiting, and technology should be part of an ongoing, evolutionary system. It should be built into the infrastructure of a firm, and not be a “10th year event” ...

“It's time for succession!”

Technology is also a major challenge ... particularly between generations, and in terms of how to achieve reasonable return on investment. Most firms don't seem to have figured out how to put technology in the service of their business ,, making it a servant to their firm's core values and competencies.

Technology is a means, not an end ... just as facilities are means, not ends, to our clients' businesses or missions.

Technology does not appear to be receiving the same level of “Strategic Thinking” as marketing or human resource management. It seems to be most typically left as a “Black Box” ... to be dealt with by “others.”

Data Collage ...

III. (b) Which challenges will you need to help them address, personally?

- 6 Preparing the next generation of leaders ... and make them less dependent. Mentoring. Transferring. Leadership – that would have the most value for the firm. Mentoring the new leadership group.
- 1 Helping people look *forward* to change.
- 6 All.
- 3 Developing our next stars ... creating an environment in which they flourish. Mentoring younger staff to: do a project; and people understanding ... how to listen to clients without coming to conclusions too quickly. Coaching and mentoring.
- 3 Holding onto mid-level management and growing them. Developing and training key people. Employment contracts; no compete contracts; and paying attention to what people want.
- 1 Keeping up the stamina *after* training ... pushing people to follow through on what we've learned, so we don't fall back on old habits.
- 4 Assuring work quality. Quality service at a competitive price.
- 1 Finding projects ... and the will to make them happen.
- 1 Developing our design-build capability.
- 4 Determining our service mix, 5 years out. Building the new "total" firm – getting into new markets, then having the image evolve. Opening new markets and making special projects happen.
- 1 Ensuring we become a global business.
- 1 All HR issues.
- 4 Recruiting good people. Getting my managers to be more innovative about ways to attract people.
- 3 Ensuring the economic success of our practice. Increasing our financial resources. Dealing with the need for capital.
- 1 Being aware of technology and competition issues.
- 1 Setting the vision.
- 1 Finding the people and resources to achieve the vision.

- 1 Finding strategic partners.
- 1 Leading the next generation of technology into the firm.
- 1 Being the glue – holding the firm together in the face of conflict.
- 1 The visibility issues.
- 1 Scope of services, client relations, and systems development.

Themes ...

1. All:

Many interviewees saw themselves as saddled with the responsibility of solving every one of the challenges, themselves.

2. Finding, Keeping, and Developing Good People:

The overwhelming majority of comments, consistent with preceding responses, focused on people problems ...

- Recruiting good people;
- Holding onto mid-level managers and growing them;
- Developing the firm's next group of "Stars"; and
- Preparing the next generation of leaders, to make them less dependent on the current generation, as they assume leadership.

3. Focusing on the Firm in 5 Years:

Many interviewees sensed that their people could take care of "today's" issues – projects and technology and staffing and cash flow – with reasonable capability. They felt their focus, as a responsibility of a CEO, should be more "future-oriented" ... and should be centered on defining and achieving what their firm would be like in roughly five years ...

- Defining and entering new markets;
- Identifying needs and cultivating new service capabilities;
- And supporting involvement with "special" projects that would have an impact on the firm's future.

4. Good Work at a Fair Price:

Another cluster of interviewees felt their role also involved an overview of their firm's work quality, to be sure they remained competitive in current and coming markets.

Commentary ...

If a firm's vision is shared, and if everyone in the firm is committed to making it happen, then shorter term issues ...

- Dealing with contracts;
- Doing projects the right way;
- Needing to know what's happening on projects;
- Or pushing people to implement tasks in the right way ...

... all fall into place. CEOs need to help people to work together to achieve their vision. Their focus needs to be *longer* term ... not "finger in the dyke." They need to help the firm crystallize their macro view. Then ... they can help them get there.

Data Collage ...

III. (c) What knowledge/skills/information will you need to address these issues?

- 1 How to be a cheerleader and supervisor.
- 1 How to overcome my own impatience.
- 1 How to manage effectively within today's chaos.
- 1 How to differentiate ourselves in the marketplace.
- 1 How to create a flatter organization.
- 1 How to help people implement strategies better.
- 1 How to help people be proficient at developing "stars."
- 2 How to work with people to develop their skills – in an environment that's changing so fast and in so many different ways. How to teach people without overlaying my own personality on them.
- 1 How to create a "learning organization" – how to help people learn.
- 1 How to address gaps in leadership.
- 1 Developing financial capital.
- 1 How to find a merger partner.
- 2 How to understand the *external* environment: what drives client decisions; their issues.
- 2 Knowing more about technology.
- 4 Learning what skills I need to really do my job well. How to develop me, as a leader – for myself and for my colleagues. Knowing more about myself – and how I can help others play out their best roles. Growing intellectually; I've spent too much time reducing costs the last few years.
- 1 How to be more accessible to people.
- 1 A process for getting answers to deal with challenges we face.
- 1 How to learn the perspective that others have – where they want to go, where they want the firm to go.
- 1 Dealing with the high-risk side – international expansion, currency devaluation, instability of countries.

- 1 How to deliver the same quality of product at less money.
- 2 How to give technical people more of a business and management mindset.
- 2 Learning to negotiate a deal better. Negotiating skills – within and external to the firm.
- 1 How to be more sensitive to personal issues; employees with problems at home can't be good at work.
- 1 How to *listen* better, particularly to personal issues.
- 1 How to become better business people; we're the blind leading the blind ... but we can't just hire "business people" as they won't get the respect they need to have an impact.
- 1 How to play the political game.
- 1 Ideas; insights; learning from others ... "flashes of insight" from sharing discussions.
- 1 How to know who *really* knows what they're talking about; some people – even senior people in their companies – tell you they know what they can handle something ... but they can't.
- 2 How to identify numbers and locations of new graduates with interests in our specialities. How to find skilled, well-rounded designers.
- 1 How to identify economically "down" geographies, from which to recruit good people with experience.
- 1 Information about what others are doing to retain staff ... incentives, percs, recognition, etc.
- 1 An MBA! I wish I were better at the business aspects of our business – a "bent" or acumen.
- 1 *All* information is good.
- 1 Organizational skills.
- 1 Communications skills – specifically, better speaking skills.

Themes ...

No really heavy “loadings” were evident in this question. Responses varied all over the map, with the exception of a few clusters ...

1. Being a Leader:

Interestingly, some interviewees were in search of methods by which they could become better as “leaders.” This included trying to identify the specific skills they should have to better lead their firms.

2. Working with People:

Many responses focused on how to work with people ... to help *them* be more effective. References ranged from ...

- Helping them develop their own skills – without overlaying their own personality on the staff member;
- Helping managers to develop their own “rising stars”;
- Helping others implement their own strategies better; and
- Helping people learn ... grow ... in a “learning organization.

3. Understanding the External Environment:

Several interviewees indicated that they knew they must be tuned in the changes happening in markets ... and in client expectations ... and in service delivery. But, many had a problem identifying a *specific process* they could use to consciously and regularly maintain a pulse about shifts happening in their “enabling” or external environment.

Commentary ...

- Only a few spoke about developing *themselves*.
- None indicated they had “personal development plans;” most focused on developing “others.”
- And most were caught up in the details of running a business, and were not primarily focused on the horizon.

The problem ...

1. If the top person isn't looking at the horizon, no one else is likely to be.
2. If the top person isn't learning, he or she provides a poor role model, as a leader.

The responses reflected a lot of “how to” interests ... the vast majority of which were not directed at how to manage or lead better. A few did look at themselves ... and how they could be better leaders. But of 37 CEOs of established firms in our industry, the numbers were woefully small. Perhaps this is a key for giving our entire profession a greater position of leadership ... in tackling essential problems in our environment, and in becoming stronger professional service businesses.

Executive Summary ...

Here are five primary observations that grow from this survey:

1. “DEPTH OF A SALESMAN”

Firms will need to be more oriented toward *enhancing their clients’ organizations* than ever before. While many are focused on becoming “1-stop shops” ... it’s more crucial to have leaders who can *think* that way, as some unique need will invariably surface that requires finding some resource outside your firm. The key will be for firms to have diagnosticians who can (1) listen *without* regard to technical discipline, then (2) assemble *whatever* resources are needed to solve the problem.

2. “THE CYBER-TOOTH TIGER”

Technology is having – and will continue to have – an increasing impact on both the services, staffing, culture, and profitability of firms. Movement of electrons will continually replace:

- Movement of paper, as firms go increasingly paperless; and
- Movement of people, as firms employ video conferencing as they increasingly work more globally, and as project webs sites keep everyone more informed, on a more timely basis.

3. “TAKE THE SECOND STAR TO THE RIGHT, AND STRAIGHT ON UNTIL MORNING.”

The future economy looks bright ... but should be leveling in five years. Firms that focus on markets and market shifts – rather than “projects” or “clients” – should do well. The better economy should also be bright for the environment.

4. “LILLIPUT AND BROBDINGNAG”

Firms have been, and will continue to evolve into either “Mega” firms or “Boutique” firms. The former will likely be a global organization of thousands, achieved via a series of mergers and acquisitions. (Some could emerge through an alliance of several middle-sized (i.e. 75-300 person) firms.) The latter will either be local firms who bring in specialists to serve their locality’s needs, or small specialists who work globally in a very focused niche.

5. “GOING WHERE NO FIRM HAS GONE BEFORE”

Firms will need a more diverse range of competencies in (1) business and entrepreneurial acumen, (2) communication and people skills, and (3) technical mastery. Recruiting, retaining, and developing those competencies are the keys to success. New forms of leadership and organizational structure will also soon evolve.

In this Survey ...

First, you'll see a collage of raw data given in response to the specific question ... comments by the 37 CEOs interviewed that are roughly clustered according to similarity of topic. Next to each cluster is the number of people contributing to that comment collage. (The number does *not* represent any sort of priority or rating.)

Questions follow the principles of "The Mandeville Techniques" diagnostic process. They proceed from:

- The broadest forecasts about markets and trends in firms;
- To projected long-term issues;
- To more immediate issues; and then
- To important details affecting the future success of firms in our industry.

Questions are more open-ended – both in structure and in attitude. The intent was to elicit as full a set of perspectives as possible. And many "Why?" questions were used to understand interviewees' perceptions more fully.

Phone interviews of the 37 CEOs were conducted by Lou Marines, Stu Rose, and Trina C. Duncan. Many interviewees asked that they not be directed quoted, by name. In order for them to be fully candid – the goal for this survey – we thank but will not be listing the names of the CEOs or their firms. Firms were chosen to represent a *variety* of disciplines, sizes, and geographies. That data is listed at the top of each set of "Interview Notes," which follows the survey summaries.

Second, after the collage of question responses, you'll see a description of the Themes that seem to emerge from the interviews.

And third, you'll see Commentary ... some "big picture" frameworks intended to expand your perspective – and to provide you with greater "learning" or insights from that question ... or bigger questions upon which to reflect.

Following the survey summary and interview notes, you'll also see a tabulation of 40 responses to a written survey about professional development trends in our industry. They add another level of detail to these findings.

Nothing, perhaps, could be more critical than the first question ...

Data Collage ...

I. (a) “What do you see as the future of the industry? Why?”

- 11 Optimistic, because technology gives AE firms the capacity to compete with the “Big 6” accounting firms. Optimistic, due to concern about the environment. Optimistic, because facilities in our niche become quickly outdated. Optimistic, in our niche, because student enrollment will grow until 2008. Optimistic, because the type of work may shift, but people are always building something. Bright, because our market is always evolving, and is tied to the domestic economy ... which looks good, long-term. Strong, based on the age of our infrastructure. Bright, because infrastructure is getting financial attention ... which should continue. We’re on the cutting edge of a 15-year wave – growth market; and we’re moving to more of a 1-stop shop to better respond to that market. The workload should be strong, until the Boomers retire in 10 years or so; then there will be a *lot* of open square footage! (Boomers will also start to pull a lot of money from their stocks.)
- 2 Shorter-term, clients are more willing to spend money now; they have it. It will likely taper in a few years. Short-term, stronger than it’s been; even conventional firms will see an upturn in their business.
- 3 In 10 years we’ll be confused by, but will figure out how to address markets that are *merging* (e.g. entertainment/software/telecommunication, or health care/long-term care.) We’ll have to stay light on our feet ... able to change rapidly; being stuck in a rut is *death!* Someone will show up with a better mousetrap. If we don’t stay *flexible* to the needs of clients – with a broader range of services from a project team – they’ll go somewhere else.
- 26 Further consolidation, with fewer larger firms. Firms need to be bigger, to compete with others (especially foreign firms.) Bigger firms, that are more global, with more offices globally, and with a *full* range of services (e.g. planning, design, financing, construction, operations, and full privatization) that are more integrated than today ... with one point of responsibility. Huge teams will dominate the Superstar specialists, as big firms want to do *all* the work. We won’t be in the “design” business, but in the business of providing “built environment services” with one point of responsibility. More complex, large projects, with clients wanting single-source providers. Big firms will have leadership, management, and technical skills in abundance; they’ll be better able to assess risk and reap higher rewards, acting as one-stop shops. We’ll evolve into a “Big 4” or “Big 6” and become “General Advisors” in everything from planning and finance, to human resources, facilities and facility operations. Big, full-service firms will be tremendously more successful; and could take over the world. Enormous consolidation, dominated by the engineers ... they’re the largest. Bigger firms are buying smaller firms ... until they have a complete 1-stop shop ... plan, develop, finance, design, build, operate, and even own (i.e. privatization.) It’s the same with suppliers and manufacturers (e.g. U.S. Filter.)
- 4 You’ll see holding companies made up of many smaller firms. Firms of 50 to 300 will form alliances; they’ll focus on creativity, and will have creative

synergy in their alliance. Firms will be more integrated between disciplines – and you’ll see strategic alliances between firms of different types (including contractors.) Acquisitions and mergers will continue; the future as currently structured will evolve to include: turnkey and strategic alliances.

- 11 You’ll see specialist, niche firms. There will be some “Superstar” work, by small specialty firms ... much of it localized. Boutiques will survive – but not necessarily do well. Evolving into fewer specialty markets – with a broader range of services ... operations, facility management, strategic planning, real estate management ... all linked to client financial management.
- 6 Within 20 years, a lot of very large and very small firms; none in the middle. More mega firms and boutiques; middle ground firms will struggle, as they can’t address all the business needs they need to address. Death of the mid-size firms ... 30 to 200 or 300. If middle-size firms are not part of a larger system, they’ll whither on the vine!
- 3 Local clients will want a single source “1-Stop Shop.” National clients will use multiple sources, for different services. Small town also like a 1-stop shop; we’ll need to get in and do it all, sole source.
- 4 South America and Asia will be common markets within 20 years – like Europe – which will make it easier to do business. The environmental market will be global, as there will be more work *outside* of the U.S. A lot of global competition in twenty years; survivors will need capital, to do construction. The market is international, not “U.S.”; other firms come here, because client like fees that are a *lot* lower; so, we must go there. Foreign firms are also acting as subs to U.S. firms, to help lower our fees.
- 1 Design-build is limited, because owners want checks and balances.
- 3 More design-build – or variations – with more cooperation between different professionals; much fewer traditional bid packages. In 25 years, it’ll be almost all design-build. Innovative contracting styles ... more public/private partnerships; it eases financing problems ... especially cash flow.
- 1 Architects will take a secondary role, as *part* of a comprehensive service clients are seeking. As an independent activity it won’t exist – except at a very small (e.g. custom home) or very large (e.g. new international airport) scale. Concerns and needs go way beyond traditional “architectural” services, including: business planning, demographic analysis, funding, financial operations, and long-term management.
- 4 Margins will continue to be tight. Tighter profits – which cuts time for overhead management hours to address the issues we *should* address. Many markets are more of a commodity, therefore price is a greater factor. We need to find a way to operate – with integrity and quality – and still make money in the face of tighter fees.
- 12 Better understanding of client needs, and solving client problems; more focused on solving client problems than creating facilities. Firms will be more of an extension of client staff, including training them and providing

management help. More “Teaming.” We’ll be more *client*-based, not project-based, with strategic partnerships with clients. More of a consistent, creative product with repeat clients. Greater in-depth trust with owners; we’ll do more for them – though firm size won’t matter as much as our ability to think expansively. Services are evolving and clients are more results and performance-oriented; successful firms will link to client issues and to client success. Aspects of design are less important to clients – except as wrapped in a whole, including owning, operating, and leaseback services. More package deals on contracts, in which we’ll do all of a client’s work for 10 years ... as a 1-stop shop ... plan, develop, finance, design, build, operate. It’ll happen for government clients at all levels, as well as most of the private sector. Less “engineering” and more “final solution” oriented ... with fuller services, such as design, build, own, operate. “Buildings” are only a small part of the picture; the question (for a bank, for example,) is “*How can we increase profitability?*” and not “*How do we add more drive-through lanes?*” Clients see “Architecture” as almost in the way ... “*What do we do with that building?*” More focus on solving client business problems – helping them be more competitive – then working as a single-source supplier with a wider range of services. More focus on relationship-building, especially as integrity suffers at the highest levels of our government; clients want to *trust* the consultants with whom they work, as facilities involve a lot of money ... therefore we’ll see a lot more repeat and referral work.

- 6 The industry will be split: vendors will deliver facilities; others will be employees of large firms or clients. We’ll be infiltrated by large vendors (e.g. Honeywell, U.S. Filter, Arthur Anderson.) Major vendors will sell directly to clients, who will cut the need for AE services; they’ll sell the facility as a package.
- 9 Automation will lead to even faster communication, which will increase project completion speed. It’ll be difficult keeping up with technology; there could be a backlash against upgrades because of the financial pressure it creates. But – if you’re not at the state-of-the-art, how do you compete in a technical business? Plus, if you’re in a commodity market, fees are tighter and there’s less money to pay for the technology. Computer technology – it’s happened ... now we have to keep up. Technology: clients, especially large corporations, are technologically sophisticated; they expect their consultants to be. But you need to be big to keep up (e.g. a server for 50 stations costs the same as one for 500.) The cost, per person, is less ... therefore larger firms can deliver services that smaller firms used to do. (It’s the same in law or accounting.) A lot more communication on the design team is happening via the internet; CADD will become more sophisticated, therefore we’ll need fewer non-technical, clerical, or drafting staff; less mail and more e-mail; faster communication. More emphasis on technology; those who don’t, won’t make it! New software enables you to do faster design with better cost control, a better ability to test options; it cuts time ... which opens dollars for exploring more design options or for more profit.
- 1 No change ... except maybe a wider variety of services.
- 1 More operations, less “centers” in our market (banking) because fewer people will leave their homes to bank.

- 1 Firms will need to get a lot better at “public involvement” – improving their ability to communicate with the public in live meetings, over the internet, in newspapers, and on radio and television. “Go to the office and work on a project” is gone forever; people’s access to information increases their desire to be involved. Projects will virtually all have web sites, especially public projects, with meeting minutes and virtual meetings. We must be able to communicate *all* sides of an issues ... or others will!
- 1 We’ll be taking on more risks – bonding projects, or structuring lease-purchases, in which we own and operate the facility, with a 15-year reversion to the client.
- 2 Lots of competition.
- 2 Much larger projects, therefore firms will need to be better at long-term *program* management, in addition to project management.
- 1 Vendors and Accountants will hit a glass ceiling; the needs of AE client will exceed their knowledge base (e.g. factors affecting real estate.)

Themes ...

1. The Economic Forecast:

Absolutely *everyone* interviewed saw the future economy as “bright.” Brightest is the shorter-term, because we’re catching up with pent-up demand ... needs that were not funded or satisfied during the uncertain economy of the ‘80s and first half of the ‘90s. While many people felt the pace would not continue at so hectic a rate, they did feel as though we’re entering an era of longer-term prosperity.

Note some comments about shifts in the marketplace, however. Firms that do not evolve with the shifts may not enjoy the benefit as much as those who do adjust. Many of the CEOs interviewed asked that specific niche markets or geographies they felt gave them a unique edge not be shared. Yet, they were clear about patterns affecting entire markets ... laboratories, schools, municipal infrastructure, ports, airports, banking, etc.

Some saw longer term merging of markets, in which “entertainment, telecommunication, and software” might form some entirely new “market.” That form of longer-term speculation needs only occasional payoff to lay the groundwork for *years* of prosperity for a firm.

Finally, the consistent reference to the “global marketplace” – even from *smaller* firms – suggests that our U.S. economy and marketplace is so interwoven with that of other continents, that it cannot be viewed in isolation. For example, environmental concerns, such as air quality or water management, know no boundaries. And many firms either have branch offices overseas, or have merged or have alliances with overseas firms. Within a few years, having branch offices in other parts of the world will simply be as routine as having a couple of branch offices within the same state.

2. Shifts in client relations:

Thinking seems to have shifted from being “project-centered” to being, first, “market-centered” – as discussed above – then, within a market, being “client centered.” Several interviewees indicated that they are now turning away new clients that are likely single-project types. They commented that it costs more to do a first project for a client ... learning their preferences, how they make decisions, how they pay, how they like to be kept informed, how they deal with changes, expectations, etc. And ... they indicated that those clients tend to negotiate more to get a tighter fee.

Those interviewees also indicated that once they establish a trust relationship with a long-term client, they simply work collaboratively to identify needs, crystallize projects, evolve a scope of service that makes sense, and determine a fee that both of them see as “fair.” Work comfort is better. Work quality is better. Staff enthusiasm is higher. And profitability is better; one-off clients in commodity markets will use fee to differentiate, cutting profitability.

The trick ...

The client then expects you to be able to take care of *all* needs ... even those not even closely related to our traditional perception of what the AE industry does. We need to learn to think more as “problem solvers” than as civil engineers, architects, or environmental scientists. Whether or not a firm has “all possible capabilities” in the firm seems less relevant than the ability of our people to “think expansively” to work with a client on *any* issue, then bring the right technical expertise to bear on any given issue. (If we don’t, Honeywell, U.S. Filter, or Arthur Anderson will!)

Second, our conditioning is more focused on projects, which have a start and an end. We measure the project results, evaluate our performance and profitability, and then move on. Now ...

We need to think of an unending continuum ... more like a marriage or long-term friendship that has no “start” or “end” but does have a series of events that occur over the years. Now sensitivity shifts more to the quality of the relationship, instead of the quality of a specific event. (Unintended disasters occur in the course of marriages or friendships; if the relationship is solid, we simply work our way through them.) If the relationship ruptures, the marriage or friend-ship ends. That means that firms will either do all of a client’s work, or none of it

Keys will be:

- Learning to gain a better *understanding* of a clients long and short-term goals and concerns ... for their organization (e.g. municipality, agency, corporation, etc.) Included would be our ability to think empathetically ... from a *client’s* perspective.
- Learning to think of solutions that may be outside the realm of physical facilities. (e.g. demographic analyses, market studies, public influences, and client strategic planning may cause shifts in client organization, staffing ... and then, perhaps, facilities.) The comment about “*How can we help increase the bank’s profitability?*” rather than “*How do we design more drive-up lanes?*” is an excellent illustration.
- Learning to work *collaboratively*. Traditionally, we get a project, go to our office, do the project, and bring solution to the client. Now, you may have an office *at* your client’s office. The client may be a working part of your team. A lot more “elbow rubbing” and less “go to my office and have solo time for project work.”
- Learning to focus on *client satisfaction*, not just the technical excellence of a project. It’s an all-or-nothing situation; if the relationship ruptures, your workload goes to zero; if you maintain a strong professional-client trust relationship, you’ll enjoy a flow of work, for years.
- Learning to deal with non-traditional *risk*. The best solution may require us to privately develop – plan, finance, design, build, own and operate – a facility ... or a school system or a water company.

It's a level of risk to which we're not accustomed. Yet ... it may be the best solution for the client ... who's depending on us to solve *all* of their problems.

For example, one supposedly "architectural" firm of about 30 actually only employs about eight architects, four interior designers, a demographer, three health care planners, a human resources specialist, a few MBAs with special capabilities in strategic planning, financial management, capital financing, and operational efficiency. It's the profile their health care clients need in order to prosper.

3. Trends in firm size:

The biggest picture, clearly, was to see an increasing number of "mega" firms and a large number of small, specialty "boutique" firms ... with not much in the middle.

If a small firm focuses on one or two or so *growth markets*, and can cultivate a set of truly *unique* capabilities, they can avoid being seen as a "commodity" and can enjoy quality project opportunities and stronger fees as a "specialist" ... much as a surgeon or attorney with truly unique capabilities can command a better fee and enjoy a healthy specialty practice. However, if either:

1. The supply-demand curve goes over the top, and several firms have the capability; or
2. The firm does not constantly advance their state-of-the-art skills that measurably differentiate them ...

... those same skills become a "commodity" and tighter fees mean a gloomy future.

The "mega" firms are already forming. An increase in the number of firms with thousands of employees, and offices located globally, is *already* happening. Once those firms have established strong trust relationships with, for example, their corporate clients, those clients will want the firm to help them deal with issues anywhere on the planet. The "mega" firms not only are covering global geographies, but are including, in their acquisitions, non-traditional capabilities ... so they can provide consulting services in:

- Human Resources;
- Real Estate Management;
- Organization Development;
- Strategic Market Planning; and
- Automation and Telecommunications.

However, while the "mega" firms approach being a "1-stop shop" ... the key client contact people still must think expansively. Some client need is bound to surface that requires bringing in someone from outside the firm. And often – "mega" firms don't have a current and easily attainable inventory of their internal capabilities.

The "mega" firms will also need a cadre of people with leadership, management and technical skills that can do truly *enormous* projects ... multi-billion dollar efforts

that may take years to complete and involve both clients and personnel from a variety of sites, globally. The engineers will typically lead the formation of – and be the dominant players in – the “mega” firms.

Some “mega” firms may be “virtual” firms ... a strategic alliance of a large number of middle size (50 to 300 person) firms, with a creative synergy among different disciplines in their alliance.

4. Trends in Firms’ Services:

The “1-stop shop” is the consistent, dominant theme. The biggest trick is being able to think “outside the box” in terms of the technologies and disciplines that may be required to solve a client problem.

Second, interviewees report that they’re being asked by their clients to help them in areas that were internal problems their firm has solved, but that the client has not solved ...

- *“Automation. You’re more advanced than we are. Couldn’t you help get us up to speed?”*
- *“You just went through re-engineering for your firm. We need help doing the same thing ... can you help?”*
- *“We’re having trouble hiring the right people in this one function. Could you help us in recruiting and retention?”*
- *“You’re already hooked up with global telecommunication and project web sites. Can you help us improve communications between our different entities?”*
- *“Your project reporting system is actually better than ours. Can you install a similar system for us to use, internally?”*

Third, the current emphasis on “Design-Build” seems myopic. Interviewees consistently cite situations in which design-build is simply a small part of providing a client with an end-package that solves the client’s problem. A firm may house construction, financing, operations, and even management capabilities internally. Or – they could provide the same services through a strategic alliance or a sub-contracting agreement. The question is not ...

“Should we provide design-build or construction services?”

But, rather ...

“What’s the best way for us to provide those services?”

And fourth ... working more collaboratively with clients also means a growing number of public-private partnerships, or relationships in which our firm becomes an actual stakeholder, or owner, in the project ... not just a “consultant” or advisor

to a client. The shift will affect our liability, our capacity to take risk, our ability to deal with capital, our outlook, our profitability and, probably, our firm's culture.

5. The Impact of Technology:

Some interviewees indicated that they may be *skipping* a leadership generation in their succession planning, because the "thirty-something" people are fully in tune with technology and their "late forties" people are resistant to it!

Interviewees report:

- Increases in paperless work;
- Less travel and more video conferencing;
- Increased multi-site (globally) teams of clients and staff;
- Increased use of project web sites, to better inform the public, the clients, and technical team members;
- Increases in speed, necessitating more experienced people and fewer "support" staff and technicians;
- Increased use of e-mail for keeping everyone abreast of project progress on an almost daily basis; and
- Increased control systems that *integrate* decisions affecting project quality, schedule progress, or project consultant and construction costs.

The biggest problems ...

- The cost to stay current with technology. Clients expect us to be at the state-of-the-art ... but fees don't always pay what it costs. This is especially true for the small and middle sized firms, as the cost-per-person is higher; and
- Compatibility ... being sure all members of a project team – both clients and consultants – can communicate with one another;

6. "Other" ...

The only other comment that jumped out was the need for people in our industry to become much better in the broad field of "pubic involvement" ...

- Gaining acceptance from hundreds of citizens in a community, over either a municipal, county, state, or federal project ... or a private sector project that affects those people. They have so

much access to information, even “lay” people may come to meetings knowing more than we can imagine;

- Communicating in the media – newspapers, radio and television – which require skills (and a disposition) that not consistent with either our training or our demeanor; and
- Understanding *all* sides of an issue, rather than what we truly believe, (from *our* perspective) to be the “right” or “best” answer.

Commentary ...

1. The economy:

If you've followed the "Kondratieff Wave" – or the "Long Wave Theory" – you'll see that we likely entered the down side of the wave in the early 80s ... probably signaled by the crash of oil prices and agricultural acreage and the recession during President Reagan's first term. The early part of the down cycle is, and was, characterized by a large number of economic failures that were caused in large part by over extension during the previous growth period.

You'll recall a huge number of failures of savings & loan institutions and banks ... and daily stories about how major corporations – and even municipalities – were declaring bankruptcy, in one form or another.

As money became tighter, enforcement of environmental regulations became politically suicidal ... which affected the SuperFund program and project financing, and had a major contracting impact on our industry ... as our firms had become overextended, as well.

In the mid 90s, we edged to the second half of the down cycle, the "recovery" period – which is characterized by development and gradual emergence of new technology and business reorganization, as everyone adjusts for economic shifts.

In the wave's last down cycle, which began in 1929, the early 30s featured bankruptcy ... as new inventions (such as the diode) slowly evolved. In the late 30s and early 40s, businesses reorganized, and new technology gradually emerged. The growth cycle began in 1948, after WWII. And, with an increase in capital, the technologies hit widespread production ... in the form of television and the early computers. During growth cycles, products simply become more refined – as in color television, VCRs, hi-resolution large screen television ... or lap tops that can out-perform computers that used to fill buildings.

The interviewees' data seems an accurate projection of where we are on the current Kondratieff Wave ... near the end of the fourth cycle. By, roughly, 2004, the organizational turbulence – in our industry and in others – will likely subside. Then, we should again enjoy a gradual, long-term growth cycle. We will have adjusted to new technologies, new forms of communication, and new ways of practicing our professions. Turbulence will likely give way to more gradual evolution.

As the global economy improves, and the funding of projects that affect us globally becomes somewhat easier, we can then address issues that can become crises within a few years: global warming, water wars, global air quality, and global management of food production ... as China is on a long-term straight-line path to food shortage that will mean hunger for a fifth of the world's population by 2016!

2. Being in Transition:

If you ask most leaders in our industry ...

“What business are you in?”

The answers vary all over: *“Real Estate”* or *“Design”* or *“Infrastructure”* or *“Plan-Design-Build-Operate-Own”* or *“Consulting Services”* or *“Whatever our client wants!”*

Because of the turbulence in our marketplace, there’s a lack of clarity about what marketplace we’re in, and what our role is in that marketplace. We need to ask questions, such as:

- *“What business am I in?”*
- *“Who should I seek for partners?”*
- *“What type of people should I recruit?”*
- *“What knowledge and competencies are needed?”*
- *“What technology do I need?”* and
- *“How should I charge?”*

The less we focus, the greater the wasted effort, and the lower our efficiency and profitability. It’s more difficult to make solid decisions. And confusion among our staff means they’ll chase too many “opportunities.”

We need to explore global patterns ... and the “markets” that emerge from them. Then we need to select markets in which we can become involved for several years. From that, we can define a specific niche to fill. That create a *theme* that provides a focus ... and provides a focused set of guidelines for everything else we decide.

3. Managing “Mega” Firms:

As we seem destined to have a smaller number of huge firms,
how will we *manage* them?

As an industry, we’re *not* great “corporate” managers! We’re more practice-driven than profit-driven ... and are always running into problems of capital.

Professionalism - versus - Capitalism.

We could lose the former, but not gain the latter. Perhaps, if we do end up with a few “Mega” firms, they will develop a true management cadre. Several CEOs today do have *business* backgrounds, not professional backgrounds.

Some problems occur as professionals have shifted to capitalism ...

- Doctors bill for tests that really aren’t needed – because they own the testing company, and because they want to reduce their malpractice liability; or
- Attorneys bill for hours not actually spent.

Trust in “The Professional” has declined, as professionals shift to capitalism.

Then the government steps in ...

- Anti-trust suits; or
- Continuing education regulations.

Client preferences shift accordingly ...

Buying “Design-Build” is more like buying a product, from a capitalist ... instead of a service from a “Professional” you no longer blindly trust.

4. Global Competition:

Many interviewees talked “global” ... but didn’t reflect the true nature of *international* competition ... not just competition between U.S. firms. For example ...

- If U.S. firms are not positioned in accordance with EU rules; or
- If firms from other countries get government subsidies that enable them to charge lower fees ...

... we can be at a distinct disadvantage. Companies from other countries can then do end runs on our firms.

We need to learn how different cultures do business. Then, we can get to know the clients better ... how they think and how they make decisions.

Many firms have global offices that are like regional branch offices. They operate independently ... and not as a *global* firm, in terms of fully using their local resources to better understand and do business in that culture.

5. Managing for Creativity:

If “Mega” firms become giant managers ...

- Project Management;
- Program Management;
- Facilities Management;
- Real Estate Management;
- Construction Management;

... creativity could die. They’d become “cash cows” that minimize risks, to favor profitability. Then they won’t be able to attract the “best and brightest.”

If we focus on *trust*, we can take greater risk ... that can lead to greater creativity in architecture and engineering. Clients may prefer that. But ...

How do you engender trust if you have 10,000 mouths to feed?

Can you manage a “Mega” firm and also be creative?
That will be an exciting challenge for top management!

6. Looking at the Future:

Heads of most of the largest firms interviewed were more locked into “Business as Usual” ... “with offices everywhere” ... “and at the top of technology” than into questions such as ...

“Where will our next business be, in ten years?”

Leaders need to look out on the horizon, because the marketplace changes will obsolesce how we do things today. “Bigger, faster, better” isn’t the answer. Instead:

“Where will the marketplace be in ten years?”

“What services will it require?”

“And how do they need to be packaged?”

For example, if the next generation of clients grew up on computers, and have been having dialogues with people globally ... do they need “local” firms at all?

If “Mega” firms are seen as being more “Faster, cheaper, 1-stop full service” and as being more distant from their clients, as they think more about building their organization ...

And if smaller firms are seen as being more “Creative, changing, technologically advanced, and out-of-the-box thinkers” who have a richer sensitivity to their clients and deal more with specifics ...

How can the advantages of both be combined?

That’s a great question for managers of the future!

Data Collage ...

IV. (a) What are the biggest challenges your successors will face? Why?

- 2 Leading *their* next generation. Finding *their* successors, and developing a cadre who will stay and will lead the firm.
- 1 Balancing needs of the firm, for people to do “jobs” with the needs of people to do “meaningful work.”
- 1 Motivating younger people.
- 2 Keeping the organization together.
- 5 The same as mine, but tougher. More complexity at a higher rate of change. The same problems I face; the consulting business is the consulting business.
- 1 Dealing with mergers and acquisitions, and alliances.
- 3 Technology. Facing an increased rate of change in technology breakthroughs. As it gets more user friendly, it may be easier; it’s difficult now.
- 2 People. How to grow people.
- 4 Creating a vision. Defining long-term goals, instead of living in the moment. Overcoming their narrow vision.
- 1 Clients are pushing responsibilities off on us; the next generation has to deal with it.
- 2 The consensus style isn’t working for the new generation, therefore they’ll have to figure out a new way. How to have effective decision-making.
- 1 Helping *cities* get organized.
- 3 Competence in Public Policy issues. Politics; they’re not involved in our communities now, but they’ll need to be.
- 1 How to run a global practice.
- 3 Greater levels of competition ... and, therefore, stress. There will be a lot more competition.
- 1 Staying focused.
- 1 Earning the trust of the rest of the firm.
- 1 Communication.
- 1 Business.

- 3 Staff wanting more free time and flex time – “*My life is not defined by my company!*” – and making the firm more attractive to those people.
- 4 Asking if they are entrepreneurs. Learning to take risks – in the firm and in the profession; they’ve been handed a lot, with very little risk. Keeping up the entrepreneurial spirit. Lack of risk-taking ability.
- 3 Being prepared to be leaders ... leaders are not just born. Being part of a distribution of leadership ... a team environment, with all the communication problems that accompany it. Determining who should be in control; too many people want to be “the boss.”
- 1 Defining their “place” in a *dynamic* practice. Seeing if things make sense, and considering the new things.
- 3 Helping people be more productive, and stronger. Working with young people; the schools aren’t preparing people sufficiently. Having the people needed to get the job done.
- 1 Finding time to think about what they need to know.
- 6 Sustaining an awareness of business *beyond* issues of how much backlog and cash they have. Thinking strategically five and ten and fifteen years down the road; even if they’re wrong, they can recover. It’s getting more capital intensive so they’ll have to learn how to bring in outside capital. Seeing 15 years out, and dealing with the “what if” situations that such forecasting suggests. Stay-ing independent, while struggling to instill capital into the firm and make a reasonable return. Inability to leverage current assets into the future.
- 1 Not enough hands-on *management* experience; they’ve been too involved in projects.
- 7 How to master *changes* in the marketplace; how to be nimble. Flexibility, to be responsive to change. Dealing with changes in our marketplace and in internal operations; we have to go through a lot more hoops. The business is getting a lot more complex. Being willing to be *flexible*, every day. Overcoming a low tolerance for change and risk; even bankers and churches are adjusting faster ... and they are *really* rooted in old traditions! Adapting to a new workplace, internally – because younger managers may be more sensitive to younger staff – and externally –because clients are changing, too.
- 1 Keeping good employees.
- 4 Getting the work; we’ve nothing proprietary, it’s tough setting ourselves apart. Proving you know you’ve been there, with clients; the “elders” command more attention.
- 2 Taking over the leadership more smoothly than we did. Being sure a succession structure is in place.

- 1 Keeping up with the *demand!* (We have a track record in a strong niche; the work is coming to us, sole source, faster)
- 3 Getting the job done; knowing where to go to get, say 50 people to do a specific job. Doing good work.
- 1 Pressure in creating change within the firm; it's very difficult.
- 2 Getting paid – the business side of projects. Making money; being economically viable as labor costs go up and margins are thin.
- 1 Being imaginative – creating better solutions, not just recycling old ones.

Themes ...

1. Dealing with Change:

The dimensions and rate of change seemed to be what the interviewees perceived would be the most stressful problem facing their successors ...

- Changes in the marketplace ... with markets rising and falling, shifting from one geography to another, or shifting in the type or volume of projects.
- Changes in internal operations, due to an increasing myriad of regulations ... in employment, in benefits packages, in human resources issues, in automation, in staff attitudes.
- Changes in staff ... principally noting the younger people who are both more computer literate and who don't seem to want their professional lives to dominate their lives.
- And changes in client expectations ... as a broader and broader range of responsibilities is being laid on our professionals, in the kinds of services we provide, in how we provide them, and even in how we communicate with them.

2. Maintaining a “Business” Perspective:

Many interviewees seemed nervous that their successors have been more project and client focused, and must now begin to think like true business leaders ...

- Creating a vision for the firm, with long-term goals that coalesce the firm's commitment and energy.
- Looking strategically, five and ten and fifteen years down the road ... rather than getting caught up in day-to-day operational issues ... and devising ways for the firm to *reach* its goals.
- Dealing with capital – particularly with the burden created by increasing technology ... and technology updates. Bringing in outside capital ... and providing a solid return-on-investment.
- Maintaining profitability ... in order to attract needed capital, and in order to be able to enter new markets, develop new expertise, or provide essential staff development.

3. Becoming Entrepreneurs:

Again, because they've been primarily focused on projects and clients, they've existed in an environment created for them. Now they're the ones who have to create the “enabling” environment for others. Specifically ...

- Learning to become true *leaders* of the firm; and
- Learning to take risks. (Risk taking was widely cited by interviewees as a quality their successors would need to develop.)

4. Winning Work:

Interviewees see the future as fraught with increasing levels of competition. They also saw younger leaders as being at somewhat of a disadvantage, in that “elders” seem to command more response from clients ... the “gray hair syndrome.”

5. The Same ... But Tougher:

Many interviewees also saw running a consulting business as fairly constant ...

“A rose is a rose is a rose.”

While they saw the principles – and challenges – as pretty much the same, they all did perceive it might be tougher, because of (1) increasing complexity and (2) an increasing rate of change.

Commentary ...

While this is a good supermarket of issues to consider, one major assumption underlies most of these comments ...

Leadership comes in generations.

If generations change, new partners may not wish to work with one another. Many firms have broken up because professionals came to the firm to be with some key mentor ... someone with a stature that was special to them. When the mentor retires, the next generation suddenly realizes that none came to be with one another!

It's easier to change leaders one at a time.

It needs to be an ongoing gradation ... not an "event."

Let a new CEO gradually assume responsibility. Then let that person make the rest of the decisions. Designate a leader ... not a "group of leaders."

Few interviewees talked about a "re-invention of their firm." An ongoing gradation typically brings about "evolution, not revolution." As the comments suggest, dealing with change will be difficult enough, without introducing trauma internally.

Incoming (younger) leaders could be best suited to taking on new challenges ... dealing with change, resolving generation issues, finding time in the face of life style priorities.

Often, if one generation is "entrepreneurial," the next is more maintenance oriented. Therefore, *skipping* a generation – which some interviewees suggested they may do – may show wisdom and courage. But ... they'll need to act *quickly*, or the entrepreneurs will leave!

Data Collage ...

IV. (b) What competencies will they need? Why?

- 2 The same as what I need.
- 1 Dealing with complexity.
- 1 Team leading.
- 7 Technical proficiency. Understanding technology. Knowing how to *use* technology. Understanding it, purchasing it, using it.
- 1 Less reliance on technical expertise, and more on practical business experience.
- 1 Specialist skills, in one of the management disciplines.
- 10 Management skills, like the director of a symphony (i.e. not as good as any player, but can assemble the right group and achieve a synthesis.) Team building ... team development, team maintenance. How to pay attention, but *invisibly*, so people feel you know what's going on, care about what's going on, and are not looking over their shoulders. How to listen, understand, & motivate people. Cheerleading. Interpersonal skills, to work in team environments. Facilitation skills, to work with *very* diverse groups. Motivating employees. Knowing the shifting roles of a project manager. Political knowledge. How to motivate people to go out and take *action*.
- 1 The belief they can do it.
- 5 Communication skills. Better communication skills; they have difficulty being good listeners ... or writing well.
- 4 The ability to build consensus. Reaching a consensus, *quickly*; it's more crucial now; the older generation was more "control" oriented, with heavy monitoring ... it's all different now. Expertise in small group decision-making. Group dynamics skills ... it didn't seem important in school; it is!
- 2 How to be decisive; even a bad decision is better than none ... they need to know when they have enough data and need to make that decision.
- 2 Flexibility.
- 1 How to be accepting of progress.
- 1 Knowing more than one language.

- 1 Everything an MBA knows; a combination engineer/MBA ... with the right personality.
- 7 Business skills. Financial skills. Better business skills – as basic as how to read a financial statement. Business management; they're not taught how to run a business and stay in business. Business skills, and entrepreneurial thinking. Knowledge of business and finance. International finance. The "Business" side – including how to price a job so it makes money for the firm – as well as taxes, financing, operations, and alternative ways for the firm to make money.
 - 1 How to find people with whom to share the burden of ownership.
 - 2 "People skills" to keep us together as a firm. Strong people skills, in order to recruit and train.
 - 1 The inclination to explore.
 - 2 Personnel management: recruiting, refereeing, firing, encouraging, goal setting, teaming, orchestrating.
 - 1 The ability to back off and see the big picture ... the world, the markets, the clients, the project flow, and our firm ... on a regular basis.
 - 1 Thinking "out of the box" ... then measuring possibilities and going with the good ones.
- 5 Getting the work; what we do isn't tough ... the tough part is making us look different than everybody else. Strong market and client development skills to earn trust and confidence, make good presentations, and develop a higher profile in the marketplace. They have to know how to bring in work.
 - 1 Tons of continuing education! Those who rise seem to take advantage of continuing education; the generation *behind* my successors are actually stronger, and have really taken off.
 - 1 The ability to train others.

Themes ...

Overwhelmingly, the biggest focus was on the more human competencies needed in management ...

- Building and orchestrating teams;
- Facilitating quick, but consensus decisions in groups;
- Motivating people, at all levels, to take action; and
- “Reading” the politics that occur in firms.

At a more micro level, interviewees frequently cited “communication” skills ...

- Listening;
- Presenting – in the firm, to clients, or to the public; and
- Writing ... clearly and (especially) concisely.

After the human side of communication and management, the second major thrust focused on “Business” skills ... especially dealing with money ...

- Ensuring profitability on projects and for the firm, as a whole;
- Finding capital – for technology or for major projects; and
- Dealing with taxes and a myriad of “operations” issues.

A third major category of comments focused on technology. Not so much having to have a firm leader as proficient as a technical specialist, but being sure the leader:

1. Understands what “technology” can do for the firm;
2. Figures out how to *pay* for the technology – and justify the expense – to all the firm’s ownership; and
3. Knows what people need to do, in order to get the greatest benefit from of the new technology.

Finally, many interviewees commented about a leader being able to ensure that the firm has work, including ...

- Looking at the big picture, to see where the markets are heading;
- Helping the firm build its profile in the marketplace, to help differentiate it from its competitors; and

- Building trust and confidence with major clients.

Commentary ...

Together, the responses comprise a good “laundry list.”

Together, they do make up a good profile for a new leader.

But there seems to be an absence of serious thought about this question. Responses were ad hoc results of the survey interview ... and not a product of a serious discussion with the next generation.

What do *they* think they’ll need?

To what vision are these competencies linked ...
today, or ten years from today?

Responses suggest that:

1. An ongoing succession evolution process is likely not happening.
2. Not much thinking has occurred related to being in a global marketplace, or needing new organizational forms or structure.

Data Collage ...

IV. (c) What would be the best way they could acquire those competencies?

- 3 Involvement in outside organizations. Taking an active part in a professional association (e.g. ACEC or PSMA); the involvement will help them build skills in working with people.
 - 1 When they're ready!
 - 2 Train them.
 - 1 By me setting an example ... then creating opportunities for others.
 - 1 Change and innovation is the key; spotting opportunities isn't as tough as making a commitment and following through on it.
 - 1 The firm leadership has to provide, or sponsor it; don't know what mechanism.
 - 1 I'll need to sit down with each person, individually, and help him or her develop a fo-cused plan for growth.
- 6 Classes – inside and outside. A *series* of courses that keeps advancing their skill level throughout their career. An ongoing program, taught on a regular basis by both internal and external people. Outside training.
- 9 Spend time with me ... and have them *do* it! (i.e. coaching; on-the-job training.) Mentor people into management positions, over five to ten years; (I had a mentor coach me for twenty years!) People will be taught by their supervisors, who have been taught by an officer of the company ... who has been taught by a consultant. First and foremost: coaching and mentoring. A formalized mentoring program. For me to turn those areas over to them, one at a time, and mentor them; give them an overview, then discuss the how-to details, then coach.
 - 2 Create time for them to exercise and practice the competencies of a leader. Exposing people to a wider range of experiences, such as involving them in our strategic planning process.
 - 1 Get exposure to other leaders.
 - 1 Networks.
 - 1 Early involvement in leadership positions.
 - 1 By having the older generation tell its stories to the younger generation.
 - 1 It'll be tough; engineers don't think this way ... some successors probably will not be engineers.

- 3 Our industry may be taken over by project managers who come to us with those skills; they'll see themselves as "managers" and not "techies." Finding people who are already capable ... meaning they see "management" as important, and want to share their skills. They have to come to us with formal education; from there, we'll provide coaching.
- 1 A sabbatical program, of four months every five years, for people to gain a better awareness of the world in which they're working ... and oriented to their own interests, as well. You can't just "do a job for 20 years" and get any kind of perspective.
- 1 I don't know.

Themes ...

The dominant theme here is:

1. Identify people who already have the bent, and perhaps some formal training, and who see “management” as valuable;
2. Have a current leader work with each successor, individually, to identify classes that might be useful.
3. Have the current leader introduce the successor to specific management or leadership functions, one at a time, and give the successor personal coaching until they’re proficient. Then move on, to the next needed capability.

In addition, interviewees frequently discussed involvement in:

- Professional organizations, in which successors could cultivate their “people” skills ... as well as build a network with other successors and with other current leaders.
- Coursework ... a regular flow of coursework taught either in the firm or by outsiders. The key seems to be “ongoing” – to establish a learning habit.

Commentary ...

Most of the advice is based on how the existing leader grew into the role.

That's practical.

But responses appear to contain a "lot of pieces" ... not a "balanced program." Together, a lot of good pieces were articulated. But the answers were ad hoc. None of the interviewees seems to have *really* thought about the next generation's development. For example ...

Leaders could also develop, with their successors, a *different* model. It could incorporate features unique to the next generation. And it could contain a balanced, long-term learning program that's comfortable to both the leader and the successor.

Such an effort would likely advance what is now a practical approach another step.

Data Collage ...

IV. (d) What are best words of advice you'd give to future leaders?

"Your security and your value are directly proportional to your willingness to feel responsible for the benefits and success of others."

"The more you make a client successful, the better the two-way relationship."

"Get involved – very involved ... in the political and business community."

"Build long-term relationships with clients who will have repeat business."

"The most important thing is to do what you say you're going to do ... to your clients, your peers, or your partners. And ... change is constant; embrace it! If we sit still, we die. How can you explore new awarenesses, to be leaders of change? How to be in the forefront of change? And how to stay on the leading edge of change?"

"Never think you know it all. Continue to work with people ... and to learn from them. They'll help you become a good leader. Continual learning!"

"Know when to remove yourself from the firm."

"Learn the ability to work as a team, versus as individuals."

"Be sensitive to each other, and don't force people to do things they can't or shouldn't do. Utilize people in their best light."

"Structure the firm in a way that allows for personal growth. If you can better an employee, in any respect, you'll get better work."

"Love what you do. And makes sure everyone in the firm loves what they do."

"Be sensitive to clients."

"Pay close attention to the finances."

"Learn how to manage projects better and quicker."

"Be willing to take a risk. Don't be afraid of the future. The next ten years will offer more opportunity than the last hundred years!"

"Decide early in your career that you want to stay in this business. When you commit to the design profession, then get licensed. And then position yourself for leadership."

"Truly be able to be at peace with yourself, as a designer. Be able to put yourself in a client's perspective; everything else will flow from that."

"Get into a client's head. Then ... look out and see what a client sees!"

“Don’t give up! Constantly strive to improve and learn. Nothing is static; you’re only as good as you were yesterday.”

“Power in business goes to those who can develop business: bring in jobs; keep customers happy; keep them coming back. You must know how to get it, do it, and get paid for it to be truly successful.”

“Always strive to be on the leading and cutting edge. Don’t be afraid to ask and make mistakes; some efforts may fail. Always push the bar; most of the wild things work out ... it’s the ‘mild’ things that don’t work.”

“Become more rounded. Don’t do one thing. Work in different areas, with different people. You’ll pick up a lot of knowledge you couldn’t get if you locked into one job and department for twenty years. Go to different locations, too. Experience different ways to get a job done, and to handle people. You’ll experience different philosophies with different bosses, different clients, and different political bodies.”

“Don’t get into it. If you can’t change the industry, don’t get into it. Nothing is predicated on value. We’ve conditioned our clients, through contracts, to pay us very little. Our industry will not attract people who want to make large amounts of money or want to be committed to long-term strong relationships with clients.”

“Nothing goes on forever. The client. The market. The business. The staff. It’s not all a straight line.”

“Learn to recognize when you don’t know what you’re doing ... and get some help.”

Themes ...

Interviewees seemed to enjoy offering responses to this question!

It's interesting to think how consistent – or inconsistent – these offerings are with the more cognitive responses to earlier questions about “challenges” and “competencies needed.”

Commentary ...

Good quotes!

Most focus on what to do and how to learn ...

Virtually nothing focused on developing self-awareness. Yet, self-awareness is one of the most important traits of successful leaders. Leaders need to be able to “walk the talk” so they’ll appear credible to others ... so that others will follow them.

What are your values?

What’s your calling?

What’s your “reason for being”?

The heavy emphasis on others assumed they needed to be more “other directed” than “inner directed.” Leaders need both, to achieve balance ... the needs of the firm, the need for personal relationships, and the needs of oneself.

All three are need for the best qualities of leadership to flourish.

Data Collage ...

V. (a) If you had it to do over, is this a good industry for a career?

Yes. It takes a certain kind of person ... a “nerd.” But – that type of person has an interest in *detail* ... which can lead to a good career. Plus – that type of person can apply the same bent to other aspects of engineering. And ... the person can begin to assemble different technical areas (e.g. finance or construction or operations) to really make things hum.

Yes. I’m not comfortable with a corporate organizational structure. I need a looser style of organization ... “*Not like GTE!*” Rigid organizations are too rigid, and don’t evolve. People are “*Putting in their time.*”

Three years ago, I would have said, “*Hands down, yes!*” Now, I’m not sure. I do not see myself retiring from this industry. I’ll be doing something else, before I retire, to provide enough money for my children.

Absolutely! No doubt. I’ve really enjoyed what I’ve done.

“It’s not a great career if all you want to do is stay technical. You’ll be pigeonholed and it won’t be rewarding. Go work for government and get a safe retirement. But – it’s really a good career if you can bring in work, if you want to be part of the ownership and management structure, and if you are part of the year-end profits.

That’s a tough question. Overall, it’s a good business. You deal with challenging issues. Solving problems is satisfying. And you generally deal with really good people.

Yes. Knowledge-based service providers will be in big demand to support economic growth. It’s very gratifying, because the *community* perceives you to be worthwhile.

Not for everyone, but it is for me. First, it satisfies my desire to do something creative. Second, I like to meet different people and see where they are, in history; client interaction allows that to happen.

No. ids are telling us that it’s not a viable profession. It’s a stagnant, slightly declining industry that’s highly competitive.

Yes. It’s the only way to leave the kind of legacy I believe in. I love to see the result.

Yes. I love this ... if you don't want to make a bunch of money. Being highly specialized is very rewarding.

Yes. When I look back, I've really enjoyed reasonable compensation and satisfying work ... with good people and on good projects.

I'd have trouble thinking of a better one. It offers a lot of chance for creativity – not just in design, but in management. Lots of satisfaction. I feel as though I make a contribution. It allows me to be involved in the community. We can't be good architects without being leaders in our communities.

I would steer my kids from the industry. It's not exciting. It has a lot of repetition. It's a good industry to make a lot of money. Every day is a new sale. There's high stress. And you can start off small.

Absolutely! I enjoy solving problems and working with people, 99% of the time, you go home feeling good about what you did that day.

Yes. You have the ability to influence and facilitate your future and that of others.

Yes!

Yes, it makes a society contribution, has tangible results, and makes a difference in the world.

Yes, I enjoy the problem solving, creativity, ability to deal with challenging issues, and do fulfilling, non-repetitive work.

Yes, it's an "OK" living.

Yes, you get to deal with good people.

Yes, you get a lot of variety ... with projects and with roles.

Yes, the firms are flexible.

Yes, the profession is held in high public esteem.

Yes, the personal contribution shows.

Yes, it allows for a lot of personal growth.

Yes, it's very entrepreneurial.

No, it's a declining industry ... very competitive.

No, the brightest people are going elsewhere.

No, it's not the most challenging career.

No, there's a fair amount of drudgery in our work.

No, it doesn't provide a high level of financial reward.

No, it's extremely turbulent ... with no clear direction for the industry.

No, it's too much of a struggle.

Themes ...

Rather than clustering, the responses seemed more colorful shown individually.

While they have a wide variance, the dominant plus seems to be the satisfying nature of the work ...

- It makes a contribution;
- It allows for creativity;
- Problem-solving is fun;
- We're held in esteem.

Downsides typically stem from lack of business orientation – as opposed to technical orientation ...

- Doesn't pay as well as other endeavors.
- Has a lot of detail and drudgery.
- Is in over-supply ... therefore is declining and "commodity-like."

Commentary ...

Responses feel more like “Middle America” ... not Bill Gates ... not “hi flyers.”

These are good people struggling to make their way in a society they don't totally understand ... a little adrift with ...

- Technology;
- Young people;
- Politics;
- Economic trends;
- The global marketplace; and
- Finance.

In a way, they're the “innocents” working to make a contribution, in their own way.

Data Collage ...

V. (b) If you had it to do over, would you still want to be in management?

- 1 Yes. It keeps me on my toes. You have to have the right mindset. Every day of rain extends a job and increases costs. It takes a while to figure out how to make the money.
- 5 Yes. It's better to support the enterprise than lead the technical side.
- 5 Yes. It's rewarding to build a firm of leaders.
- 9 Yes. It's a chance to mentor and grow young people. I make decisions that shape careers. I like to see people flourish.
- 1 Yes. You make more money.
- 3 Yes. I like the people side of the business. I like being involved with people, more than "things."
- 1 Yes. I like solving client problems.
- 1 Yes. It's an exciting game.
- 6 Yes. You get to see the whole picture ... and shape it. My personal goal is to have a broader impact ... create a better "whole" than was there before. My biggest mistake was not doing it sooner; I have a *ball* being in charge! I'm driven; I've always felt I wanted to do something *more*; I also derive high personal satisfaction and a great diversity of experience, as the firm evolves. Certain people are bound to be managers and own a company ... they *want* to lead, not follow; following is good at the start of a career, but later – when you see you ideas actually work – it's time to "go for it!" I like the ability to have influence, and facilitate your future and that of others.
- 1 Yes. It's very fulfilling.
- 4 Yes. It's a good place to use skills related to people and strategies. I enjoy working with people and making something happen ... building consensus. Management is fun ... getting results through people.
- 1 Yes. It gives me outreach into the community.
- 3 Yes. I like the challenges. It's easier to do projects, but management is more challenging ... plus, the rewards cover the pain!
- 1 Yes. I'm better at communication and ideas.
- 1 Yes. Management is interesting.
- 1 Yes. I get more growth.

1 Yes. I'm not sure about the transition, but the rest is fun!

1 Yes. I can't imagine wanting to be in any other place.

• • • • •

1 No. I'd prefer to be an engineer, so I could create a product, instead of push people around. I'd prefer to be in a boutique firm, so projects would be small enough for me to put my hands around.

1 No. Too much is self-taught; too few tools are provided.

1 No. I want to deal more with clients; solving their problems is much more fun.

1 No. I didn't plan well. I have a ton of responsibility by title, not by desire.

1 No. Early on, I was client focused. I still don't know why I left that. Now I spend so much of my time dealing with finance; that's not fun.

Themes ...

Two patterns emerge ...

1. The people who enjoy management seem to enjoy the “people” side of the business more than the technical project ...
 - Mentoring and growing people;
 - Getting things done through people; and
 - Communications, including consensus building.
2. The people who enjoy management also *enjoy* positions of leadership ...
 - Shaping the future of the firm;
 - Having a broader impact – on the firm or community;
 - And enjoying the rewards that come with positions of leadership.

While these CEOs have a variety of personal styles, most seem to be “driven” and *enjoy* the challenge of “stepping to the plate” and making something happen.

People who would not go into management, if they had it to do over, seem to gain greater satisfaction in *doing* a quality project ... rather than mentoring others to do a quality project. They probably accepted their positions out of loyalty to the firm and to their colleagues, or because they were the most senior or esteemed people in the firm when the last transition happened ...and were “the logical choice.”

Commentary ...

The majority of those who enjoy being CEOs *like* to be “Michael Jordan at crunch time.” They have strong ego drives ... to shape their community, their firm, their new leaders, and their young people. They *want* to be responsible .. to coach, mentor, market, shape, decide ... and to have a bigger impact.

They’re more into people than technology. Their reasons for enjoying management don’t resonate around technical competence ...

“Who’s the most creative?”
or
“Who’s the brightest?”

These people, predominantly, like the people side, therefore became managers.

Yet ... the world is *full* of professionally trained managers.

Some of these engineers may have given up on engineering (or architects on architecture) because the model for upward career paths is: “Be a manager.” As they indicated, rewards are greater. But ...

If many our best technical people are siphoned off into management, our technical quality can become “me too” ... slightly better than average work. (And many clients see us as providing a “commodity” service.)

However, that isn’t the *only* model.

In other technically based industries, the edge often goes to people who do have a strong *technical* advantage ...

- In computer hardware and software.
- In telecommunications.
- In biotechnology.

The rewards will go to people who truly lead their industry’s state-of-the art technical advancement. They’re the least dispensable people.

And those industries are *really* shaping the world!

Data Collage ...

V. (c) When you finish as a firm leader, what would you like to do?

- 5 Real estate. Be an entrepreneur. Dabble in some of the companies I've set up; it's tough to slow down and do nothing ... and it's amazing to see the absolute *killing* I can make from some of the least innocuous spin-off businesses we've begun! I'd look for an equity position in a development project. Be my own client.
- 1 A second career.
- 1 Be a "wise elder!"
- 11 Volunteering. Charity. Give back. Non-Profit Boards. An outreach program for the poor.
- 14 Teach. Leadership education. Mentor *all* levels. Teach in a business school. University teaching. Teach skills people need, in universities or in a firm.
- 3 Help the profession. Raise the profile of the industry.
- 1 Get my family to join me, to do something together.
- 4 Corporate arena. President of a bank. Corporate Boards. Help other companies get through the challenges I faced.
- 12 Piano. Violets. Golf. Catch up on reading. Travel, with my wife. Fish. Improve my golf game and travel. Woodworking. Get a life. Watch chickens lay eggs. Do the things I did as a kid, especially photography and model railroads.
- 1 Close the gap between university and industry.
- 6 Write ... regarding "management." Write about historic issues about which I would have done research.
- 1 Wherever God leads me.
- 7 Stay involved in the firm, in some way; it's fun. Counsel the firm. Consult with the firm on special assignments ... but stay in control of my own schedule. Be a mentor, coach, teacher, and tutor to help people solve specific problems – the firm's "grandfather." Continue as a resource and mentor to the firm; I like the business and the people. I hope to be of value to the firm after I retire – in marketing or with specific clients ... but the new partners have to want it.
- 4 Become a management consultant. Consult in project management. Act as a management consultant to help clients find good firms, organize their financing, etc.
- 1 Help high school to college transition; help in career selection.

- 1 Get more women involved in our field.
- 1 Mission work; travel and do for others.
- 4 Stay involved in communities – local state and national – either as a volunteer or even running for office. Stay involved in my community. Assist in my community; they need the same skills.
- 2 I really haven't thought about it, and have no vision. I've not thought about what I would do, day to day.
- 1 Go back to school, and take something of interest.

Themes ...

Several themes surfaced. The most prevalent was some form of giving of advice ...

- Teach in universities, to share – in the business school – lessons learned as leader of a quality professional services firm;
- Writing – about management, or about long-term interests about which a body of knowledge has accumulated; and
- Teaching, coaching, and mentoring in the firm.

A second major theme surrounded community contribution ...

- Charitable “give back” volunteering;
- Helping communities function better, using the management skills that helped the firm succeed; and even
- Running for office ... to make a more pronounced contribution.

A third major theme was involvement in “pet” businesses ...

- Spin-off businesses that grew from the firm;
- Real estate development – getting o the client side, finally; and
- Being a consultant ... essentially teaching, but for more money.

Finally, a large number of interviewees were quite ready to “check out” ... leave the business world and do whatever met their needs ... with a wide variety of hobbies and activities (such as travel with the family.)

Commentary ...

Responses formed an interesting “trichotomy.”

- Some wanted their entrepreneurial spark to manifest itself in new ways ... hence new businesses ... and new personal growth;
- Some really wanted to maintain their relationship with their firm ... as it has really been a way of life ... but adjust their role; and
- Some have high needs to readjust from being “other directed” – meeting the needs of others, such as clients or staff ... to being more “inner directed” – meeting whatever needs about which they feel strong passion ... from community contribution to mentoring younger or less fortunate people, to just personal hobbies.

It’s interesting that no “Forum” seems to exist to support these leaders. Yet they have insight, borne of years of successful experience, that could be of *enormous* help to firms, to the entire profession, or to their communities.

Perhaps both firms and major institutions in the profession need to think about productive ways to use this considerable asset ... for everyone’s sake.

The Individual Interviews . . . CEO's Speak Out

Several CEO's who participated in the survey told us they'd like to see the responses reported for each person, so they could view the full remarks in context. The following section documents the essence of each respondent's remarks as we took them down during the interviews, bearing in mind that the interviews were conducted verbally .

Most participants also asked that their comments not be attributed to them, so we've only identified them by firm, discipline(s), size and location.

Not all participants answered all the questions; often their answers covered more than one question, so you may find that certain questions are not directly accounted for in some of these individual reports.

#1. Architecture & Interior Design firm.
25-30 people
Carolinas

I. (a) What do you see as the future of the industry? Why?

If architects don't become flexible to the needs of clients, offering a broad range of technical services, the clients will go somewhere else.

Market or die. You have to market well, and consistently, and comprehensively – listening to *all* the needs of clients – or you'll be out of business.

Computer technology. The technology has happened. The goal will be to keep up with it in the future, because it's changing.

Hold onto quality and integrity, but make services affordable. Clients are pushing for more integrity – for us to do what we say we're going to do – and for quality. But fees are tighter! How to operate in this kind of environment and still be profitable?

I. (b) What do you see as the future of your firm? Why?

Very bright future! We're one of the only firms in our area looking at alternatives, and not sitting back with the good economy. We are constantly pursuing and questioning how to change and grow. We are positioning ourselves within the community to be seen as an *interdisciplinary* design firm. We are actively recruiting the best talent in our area. We can't just sit on our butts!

II. (a) What marketplace changes do you anticipate in 5 years? Why?

I don't think the economy will be as strong in five years as it is today – but stronger than in the 80s. Tax laws will be shifting, to encourage developers via incentives. The state government is just beginning to encourage development in churches and schools, and is talking about investing in tourism and retirement.

II. (b) How do you expect your firm to be different in 5 years? Why?

We will be in program management and/or construction management ... or a creative mix of what clients want. We see ourselves as becoming an overall agent for the owner. That includes: getting funding; and taking responsibility for dollars.

Historically, architects *run* from taking responsibility ... especially for money. Clients are wanting us to do something. Clients are fishing, because they're not happy with Construction Management. The CM gives the client someone to blame when it goes over budget ... but it doesn't a lot of other issues for clients. (e.g. Getting the building to function exactly as they want it to.)

I see us taking on more liability ... which I find very exciting!

First, I'll work with our university clients; they've expressed how extremely frustrated they are with CM's. We'll start there, because they trust us. I'm now in the process of pulling together estimators and financial advisors. Then we'll work on processes for developing a better end product, and systems for staying within bud-get. Then ... we'll go back to the clients and say,

"Try it with us."

Universities feel they're not getting their money's worth. Our goal will be to develop projects that are as good or better, with them spending less.

Once we've developed our new systems for universities, we'll see what other client type also seems frustrated and is looking for change.

II. (c) What new businesses will you be in? Why?

Corporate facilities. It's starting to boom in this area; a lot of corporations are moving to our area. They've already run out of space, so they're starting to build.

Retirement. A population is moving here that's "well-elderly" ... that is, healthy. We're like Florida was 30 years ago. We don't have the infrastructure to support them, and they're moving here in droves.

II. (d) What businesses will you have left? Why?

Can't think of any.

II. (e) What new competencies will your firm need? Why?

Architecture is changing. It's more than the AIA "Basic Services." We'll have to be more involved early, and *lead* a project. We need to change our mindset, and be

empathetic to other issues on a project besides design ... such as engineering and finances. Traditionally, architects have been aloof, and worry only about design.

Business education, and planning. If we're the leader of a team, we need to be conversant in a variety of disciplines. Tremendous communication skills. Team building. How to help the group become a working, functioning team ... with closeness. We need to understand and manage the financial expectations of the client.

If we are going to lead, we need to know what to do to get people to follow.

II. (f) What would be the best way to acquire those competencies? Why?

Easiest – the best way would be to sell our firm to someone who already has those competencies. Otherwise, we're constantly looking for educational programs. We have no one in-house who knows where seminars are. I'm constantly on the lookout for seminars offered by people I trust, such as the local university or PDR.

The other way we learn is by teaming with others. On a lot of projects, we do a national search to find the best ... so we learn from them as we work together.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

The transition of the leadership, power, and roles. The transition of people who are not prepared or educated in the role. I don't need people to think like me, but they need to carry the role, if it's turned over to them. Most want to stay technically focused. While this transition is occurring, it takes a lot of time to explain what's going on to everyone. It's frustrating.

The other big change ... getting the *entire* firm to adjust to the changes in client expectations. People who were educated in the 60s, 70s, and 80s think of architecture in an archaic way. Leading that change into a new way of thinking, toward the new millennium, will take a lot of education. If we don't change, we'll just fade into the background.

III. (b) Which challenges will you need to help them address, personally?

Both.

III. (c) What knowledge/skills/information will you need to address these issues?

Business, finance, and new disciplines. They don't have to be a financial planner or a contractor, but they need to understand it.

III. (d) What would be the best way for you to acquire them? Why?

I don't know where to go – other than react to what comes across my desk – to get education for people ... especially in understanding business and financial issues. I can find resources at universities, but not that are tailored to our industry.

IV. (a) What are the biggest challenges your successors will face? Why?

Taking risk. In my firm, and in the profession, professionals have been handed a lot – with very little risk. As they take over, it probably won't be as easy.

Flexibility, to be responsive to change.

Working with young people who don't understand buildings. Schools of architecture are not teaching the changes that are going on in our profession. They teach in the old way. The one exception is Avant Garde Design; they're freer in their de-sign ... but less realistic. And they have no idea of how to put a building together.

IV. (b) What competencies will they need? Why?

Tons of continuing education! Those who rise will take advantage of continuing education. The generation *behind* my successors is actually stronger, and has really taken off.

IV. (c) What would be the best way they could acquire those competencies?

Change and innovation is the key. Spotting opportunities isn't as tough as making a commitment and following through on it.

IV. (d) What are the best words of advice you'd give to future firm leaders?

"The most important thing is to do what you say you're going to do ... to your clients, your peers, or your partners. And ... change is constant; embrace it! If we sit still, we die. How can you explore new awarenesses, to be leaders of change? How to be in the forefront of change? And how to stay on the leading edge of change?"

V. (a) If you had it to do over is this a good industry for a career?

I'd have trouble thinking of a better one. It offers a lot of chance for creativity – not just in design, but in management. Lots of satisfaction. I feel as though I make a contribution. It allows me to be involved in the community. We can't be good architects without being leaders in our communities.

V. (b) If you had it to do over, would you still want to be in management?

Yes. Not sure about the transition, but the rest is fun!

V. (c) When you finish as a firm leader, what would you like to do?

I hope to be of value to the firm after I retire. Be involved in marketing, or with specific clients. I'm not sure how that will work, but on some limited basis I'd like to be involved in the firm. The new partners have to want it.

I'll also be involved in an outreach program for the poor.

#2. Architecture, Interior Design, Construction (focus: Design-Build)
100 people
Pennsylvania/Mid-Atlantic

I. (a) What do you see as the future of the industry? Why?

In construction, people are always doing something. The type of work may shift, but there's always something happening.

I. (b) What do you see as the future of your firm? Why?

Our main niche has been financial institutions. We need to increase the number of niches in which we're involved. It provides greater long-term stability. As one market increases, another may not. We'll probably buy a firm that has a specialty in those market niches.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

More people are receptive to design-build than ever before. Even the government is doing a lot of design-build. At the same time, clients are becoming more sophisticated ... and are shopping around for design-build firms.

In the old days, we used to be able to sit around the table and show them what we could do. We'd leave the room for about half an hour, and they'd hire us. Now, they want to talk to five or six design-build firms.

II. (b) How do you expect your firm to be different in 5 years? Why?

Larger. And more diverse. We'll be working on different kinds of projects.

II. (c) What new businesses will you be in? Why?

I don't think we will be in new businesses (i.e. services.) But we will be in different markets ... residential, mausoleums ...and maybe some others.

II. (d) What businesses will you have left? Why?

Speculative development ... building a building where no specific tenant exists; it's just too risky. When you win, you win big. But when you lose, you lose bigger!

II. (e) What new competencies will your firm need? Why?

Better marketing people.

II. (f) What would be the best way to acquire those competencies? Why?

Through a headhunter. Go out and steal people who fit the mold.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Getting people not to jump ship, for better financial offers. I have to pay more to keep them now.

III. (b) Which challenges will you need to help them address, personally?

Employment contracts. No-compete contracts. Paying attention to people, to understand what *they* want. Plus ...

Looking at other business and markets, and determining how to get into them.

III. (c) What knowledge/skills/information will you need to address these issues?

Learning how to negotiate a deal better.

III. (d) What would be the best way for you to acquire them? Why?

Not sure.

IV. (a) What are the biggest challenges your successors will face? Why?

Keeping good employees.

Getting the work. Being there quicker. We have nothing really proprietary, and it makes it difficult to set ourselves apart.

IV. (b) What competencies will they need? Why?

What we do isn't tough. The tough part is getting the work in ... and making us look different than everybody else.

IV. (c) What would be the best way they could acquire those competencies?

I don't know the answer to that.

IV. (d) What are the best words of advice you'd give to future firm leaders?

"Build long-term relationships with clients who will have repeat business."

V. (a) If you had it to do over is this a good industry for a career?

I would steer my kids from the industry. It's not exciting. I has a lot of repetition.

It's a good industry to make a lot of money. Every day is a new sale. There's high stress. And you can start off small.

V. (b) If you had it to do over, would you still want to be in management?

Yes. It keeps me on my toes. You have to have the right mindset. Every day of rain extends a job, and increases costs. It takes a while to figure out how to make the money.

V. (c) When you finish as a firm leader, what would you like to do?

At 45, I expect to be backing out of the firm. I'll help any of my kids who want to get into the business. But I've not thought about what I would do, day-to-day.

#3 Civil/Environmental Engineering, Planning, Mediation
200 people
Western U.S.

I. (a) What do you see as the future of the industry? Why?

Package deals on contracts ... “*Do it for ten years.*” Clients want one-stop service ... plan/finance/develop/design/build/operate. Government is asking for it increasingly, at all levels. So is the private sector: corporations, manufacturers, businesses, and developers.

Firms will be more integrated and more multi-disciplined. You’ll also see more strategic alliances with disciplines that aren’t in-house. (e.g. contractors, lawyers.)

Firms will be taking on more risks ... funding projects, lease/purchase agreements with a 15-year reversion to client ownership.

Firms will need to get a lot better at public involvement. They must be able to communicate in public, over the Internet, in the newspaper, on radio and TV. The days of “Go to the office and do a project” are gone, forever.

People’s access to information increases their desire to be involved. Projects will virtually all have web sites ... especially public projects. They’ll see minutes of all meetings. You’ll see virtual meetings, with public input. Firms will need to be able to communicate all sides of an issue ... or others will!

Firms will also have to be light on their feet ... able to change rapidly. Being stuck in a rut equals death! Someone will show up with a better mousetrap.

I. (b) What do you see as the future of your firm? Why?

We’ll have a significant difference in management. We’ll be moving *away* from consensus management to a centralized management team; it’s tough to do complete consensus as you get over 400 people.

We’ll have more, smaller local offices, connected by a hi-speed network. And we’ll be doing a wider variety of services..

We’ll also either be part of a larger firm, or be much larger ourselves than we are now. Mid-range (200) is awkward. We’ll need 350 to 400 to satisfy client desires for a one-stop shop ... and still maintain efficient overhead factors. Plus – you need growth to keep good people.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

With our economic growth, you'll see more growth in work. The Fed will loosen up spending – such as the Airport Trust Funds and the Highway Trust Fund.. That's a *big* stimulus! (Utah, for example, will be spending over \$3 billion in three years ... and they're not a huge state!) You'll see more infrastructure work ... highways, water, wastewater, sewers, and electric.

You'll also see a huge amount of work coming from the deregulation of electric utilities ... especially in transmission. People want some options, as they have enjoyed with phone carriers. But – the distribution and transmission systems are not able to deliver.

People's desire to improve the environment will continue to grow ...

- Watershed management is just in its infancy, and will accelerate.
- A lot of people are investing in stocks. Industries are striving to show that they're "green" so the public will buy their stocks more – and so the value will rise.
- The agriculture industry will have the same pressure. They've been exempt ... though they pollute a lot! Farmers and aquaculture operations begin to be held accountable, via the Clean Water acts.

The economy can't continue at this pace forever. We'll probably see a huge fallout in the world, due to the success of the U.S. economy. No one else's is nearly as good. It could start a trade war. It could hurt us, with oil control.

II. (b) How do you expect your firm to be different in 5 years? Why?

Bigger. Probably 30-40% bigger within five years.

And we'll be doing things differently. Our broader range of services is already starting ... and will continue.

II. (c) What new businesses will you be in? Why?

Construction.

Public policy negotiations.

Design/Build/Maintain computer network systems for clients (e.g. municipalities).
More operations and maintenance.

II. (d) What businesses will you have left? Why?

Residential development. It's simply too competitive, and has too small a margin.
Developers are squeezing prices too hard.

II. (e) What new competencies will your firm need? Why?

Communicators. They'll need better written and spoken skills ... or they won't be able to work here. The clients and the public demand information; they can't just do their technical job.

Contracting. How to make the transition from professional services to contracting?

And – we'll have to become better business people. We give too much away.

II. (f) What would be the best way to acquire those competencies? Why?

Education ... outsourced. We'll do a lot of in-house training, or we could hire someone who would teach others. Also, we could use joint ventures as a learning vehicle, in which a partner from your joint venture partner teaches you.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Being able to recognize changes and react to them ...

- Where are the markets heading?
- What do we have to do to get there?

Change is painful.

III. (b) Which challenges will you need to help them address, personally?

Transitioning to a management team, as the firm gets larger. It's a different way of doing business. We may even need new leadership.

A leader need to be a change agent ... to help people look *forward* to the change. I will also have to help people see if they should step aside, and let others take over.

III. (c) What knowledge/skills/information will you need to address these issues?

Negotiating skills – within the firm and external to the firm.

We'll need a greater sensitivity to personal issues. Employees with problems at home can't be good at work.

We'll have to be better *listeners*. We're great at dealing with project issues. We're just not as good at dealing with personal issues.

We also have to become better business people. Classic *business* skills. We're the blind leading the blind. You can't just hire a "business person" in our firm; they won't get the respect they'd need to have an impact.

And, we have to become better versed in how to play the "political" game. It's at the root of everything we do.

III. (d) What would be the best way for you to acquire them? Why?

Go learn from someone. Finding the programs is tough. (Harvard's is 14 weeks! We can't do that. Even if a program were a week each month that would be more doable.)

IV. (a) What are the biggest challenges your successors will face? Why?

(I haven't thought about that.)

Taking over the leadership from us – more smoothly than when we took over the leadership from our predecessors.

Politics. They're not involved in our communities now. They'll need to be. Yet it takes time, which is difficult when you have a young family.

IV. (b) What competencies will they need? Why?

Better communication skills. They still have difficulty being good listeners, or writing well ... and concisely.

Better business skills – even as basic as how to read a financial statement.

IV. (c) What would be the best way they could acquire those competencies?

Outside training.

IV. (d) What are the best words of advice you'd give to future firm leaders?

"Get involved ... very involved ... in the political and business community."

V. (a) If you had it to do over is this a good industry for a career?

Absolutely! I enjoy solving problems and working with people. 99% of the time you go home feeling good about what you did that day.

V. (b) If you had it to do over, would you still want to be in management?

Yes. You have the ability to influence and facilitate your future and that of others.

V. (c) When you finish as a firm leader, what would you like to do?

Stay involved in communities – local, state and national – either as a volunteer or even running for office.

#4. Air Quality Engineering, Sciences, Industrial Hygiene
300 people
Northeast U.S.

I. (a) What do you see as the future of the industry? Why?

Short term – 3-4 years – stronger than it has been. Conventional firms will see an increase in their business, mostly because acquisitions and mergers have driven out competition. But – the increase in business will mask changes that are occurring in the marketplace.

Long term – five to ten years – consulting firms will be solving more business problems, and helping clients be more competitive. The term “A&E” will become almost obsolete, because projects will be structured radically differently. “Turn Key” – finance, design, build, operate and maintain – could potentially replace A&E firms.

Another viable option will be strategic alliances. Major organizations – inside and outside of our A&E industry – will combine to become single source suppliers, creating a whole new entity to supply that client.

I. (b) What do you see as the future of your firm? Why?

We will exist as a strategic alliance with other organizations. We can't get much bigger and stay focused on existing clients; the workload isn't there. We also could be bought out ... or we could survive as a smaller “tight niche” firm, focusing on a few clients. Our access to capital is limited, from current transition buyouts; not much can be done to grow or change an organization without capital.

Strategic alliances are one of the best ways to change our organization – specifically finance and development. It's more expedient to align with others.

The biggest issues we'll be struggling with in the next few years will be developing our human resources. We are underdeveloped. We need more business-minded people, and less technology-driven people. Our culture has been very technological and academic, not business-oriented. Our clients need us to understand how to improve their business ... and we focus on completing a project! We don't see the client's “bigger picture.”

II. (a) What marketplace changes do you anticipate in 5 years? Why?

In Occupational health and safety, it'll be less regulatory-driven, and more profit-driven. In health care, for instance, the work was OSHA-driven. Hospitals bought services to be in compliance. Now, they're buying to reduce their costs – specifically, loss of sick days. We do an ergonomic assessment. By changing

activities, they reduce injuries. Less sick days. One hospital alone can usually save a million dollars!

Doing cost-benefit analyses to reduce liabilities is becoming prevalent. Clients see us a “management consultants,” not “OSHA compliance consultants,” because we are helping to drive down their costs.

II. (b) How do you expect your firm to be different in 5 years? Why?

We’ll either be a part of something else or a holding company. Either way, we’ll be subcontracting resources. In delivery, I see project managers being the strength and backbone. A lot of the “worker bee” resources will be contracted out.

We have to become more entrepreneurial. We need to benchmark against law or consulting firms, not just other engineering firms. We’re competing against those kinds of firm.

II. (c) What new businesses will you be in? Why?

We’ll be focused on fewer clients, with a much broader range of services provided to those clients.

II. (d) What businesses will you have left? Why?

Any clients we can’t serve well, and have a strong reputation. Any one who won’t buy on relationships – such as DOD or others who look at price only – or anyone who takes forever to pay us.

II. (e) What new competencies will your firm need? Why?

We need stronger business-oriented people. Practical business skills. People who think like entrepreneurs. People who can manage clients’ capital. But – we really don’t know what skills we’ll need. Some I’m not sure are trainable ... such as entrepreneurship.

II. (f) What would be the best way to acquire those competencies? Why?

Hire. Be *very* selective about who we hire.

We will also need to cultivate some skills within our firm. We'll do that by:

- (1) Creating awareness, so they're receptive to change;
- (2) Creating processes and procedures, so they know what they're expected to do; and
- (3) Give them training.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Ability to transition to the scenarios described. Communicating a new vision. Then, *acting* on the new vision.

Completing our ownership transition.

Finding strategic partners who think as we think.

Retooling our resources. Training existing employees. Or finding and attracting new employees.

III. (b) Which challenges will you need to help them address, personally?

I can't do anything totally by myself. I am working on increasing our financial resources. And I'm working on finding strategic partners.

III. (c) What knowledge/skills/information will you need to address these issues?

I stay awake at night worrying about this. I've been so focused on reducing costs, in the last few years, that I've not worked on growing intellectually. I've not associated with people who could help us. I've not allocated time for workshops or conferences. I'd like to begin working on intellectually developing and growing.

III. (d) What would be the best way for you to acquire them? Why?

By eliminating the fear of failure ... and *doing* it!

IV. (a) What are the biggest challenges your successors will face? Why?

Pressure in creating change within the firm. It occurs individual by individual, and is very difficult. At times, it would be easier to start from scratch.

IV. (b) What competencies will they need? Why?

Less reliance on technical expertise, and more on practical business experience.

IV. (c) What would be the best way they could acquire those competencies?

I see our industry will be taken over by project managers who will come to us with those skills. They'll see themselves as managers, not "techies."

IV. (d) What are the best words of advice you'd give to future firm leaders?

"Don't get into it. If you can't change the industry, don't get into it. Nothing is predicated on value. We've conditioned our clients, through contracts, to pay us very little. Our industry will not attract people who want to make large amounts of money, or want to be committed to long-term strong relationships with clients."

V. (a) If you had it to do over is this a good industry for a career?

Three years ago, I would have said, "*Hands down, yes!*" Now I'm not sure. I do not see myself retiring from this industry. I'll be doing something else, before I retire, to provide enough money for my children.

V. (b) If you had it to do over, would you still want to be in management?

No. Early on, I was client-focused. I don't know why I left that. Now I spend so much of my time dealing with finance; that's not fun.

V. (c) When you finish as a firm leader, what would you like to do?

I would look for a development project, and have an equity position.

#5. Architecture, Planning, Cultural, Historic Preservation
50 people
Eastern Pennsylvania

I. (a) What do you see as the future of the industry? Why?

Enormous consolidation. Death of the mid-size (30-200/300) firm.

Boutique firms – with a specialty – with survive (but not necessarily do *well*.)
The Mega firms will be dominated by engineers, especially civil; they're the largest.

The reason is: the cost of technology.

Clients – such as large corporations – are technologically sophisticated. They expect their consultants to be equally sophisticated. You need to be *big* to keep up. (For example, a server for 50 people costs about the same as for 500 people.) The cost per person is less for big firms ... and too high for smaller firms to keep up.

Larger firms can therefore increasingly deliver services that smaller firms have been providing. (The same phenomenon is happening in law and accounting.)

I. (b) What do you see as the future of your firm? Why?

We need to find partners to create a “Mega” firm that is *not* dominated by engineers. They can be *too* structured, over-disciplined, too checklist oriented. (Like the Dilbert comic.) It's not fun, and doesn't lead to particularly creative solutions.

We're going to be bringing talented architects, engineers, bio-scientists, environmental scientists, communications and PR specialists, and planners into a large firm – or consortium. They're now largely fragmented. They need to see the advantage of being part of a central system. It takes advantage of technology. And it uses their skills in a lot of geographies.

Some people *prefer* to be isolated. But when a big firm buys their competitor, the small specialist loses out. And with Indefinite Quantity Contracts, you can be “out” forever! The large firm can also respond to a wider range of client needs – which clients are seeking. Plus ...

“I hired a 5,000-person firm!”

feels safer to a client. The mega-firm we build will need to run as though it were a single office in 27 places (vs. having 27 offices.) It'll need to feel seamless ... which can be readily accomplished with video conferencing.

Clients are changing, too. They want someone who understands them ... and can then deal with all of their facilities, globally. They don't care about geography.

Firms will develop specialties in niche markets, so they can deliver *real* expertise, anywhere.

If we can't arrive at this configuration in ten years, we'll be in *big* trouble!

II. (a) What marketplace changes do you anticipate in 5 years? Why?

Technology – delivering information and services over the Internet. Computer modeling ... in 3-D. Construction documents are beginning to move away from paper.

Identification of market opportunities will shift from paper to the Internet. More sending of information; more identifying of opportunities. (e.g. A school district can place an ad for a school architect. It'll be seen globally. We can spot it on the Net. The school gets a better specialist. The specialists serve a large geography.

Local firms will act as boutiques, with local codes, permitting, and fieldwork.

II. (b) How do you expect your firm to be different in 5 years? Why?

We'll be partnered with a lot of new people. 60 - 70% of our ownership will shift ... possibly to people from other firms, rather than just internal people. (It'll be the start of the "Mega" network.)

Services will evolve with market demand ... via hiring or the network.

We'll have to have continual technology upgrading.

II. (c) What new businesses will you be in? Why?

None. Our services will be changing, though. We'll still be a consultant. But we'll be adding new services ... although I don't know which, yet. We won't be specialized. Instead, we'll be more ameba-like ... changing with the flow.

II. (d) What businesses will you have left? Why?

Don't know. If something is not in demand, it's gone! No forecast.

II. (e) What new competencies will your firm need? Why?

Computer competencies. Our knowledge base is okay. But we need to be as good as the kids coming out of school. (We have the technical knowledge; the kids have the computer knowledge.)

II. (f) What would be the best way to acquire those competencies? Why?

Vast quantities of training. (That's ideal. Reality is probably the fear factor, and half-ass training at the last minute.) Our staff is now solving problems that partners can't touch, because they're out of tune with the technology.

We'll need to identify the tools that different people need. Then, we'll have to figure out how to learn each tool. I'm not sure *how* we'll do the training, yet.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Staying up with technology. And surviving the change ... in ownership, in partner firms, in technology. The environment will be anti-traditional, and will therefore have greater discomfort.

Finding people who want to make a difference ... make positive change. A lot of kids don't want challenges ...

"I just want to do my job, not transform the world."

Recruiting will be a problem.

III. (b) Which challenges will you need to help them address, personally?

All of them. It's in my lap, mostly.

III. (c) What knowledge/skills/information will you need to address these issues?

Knowing more about technology ... even about drafting (as I'm a "non-technical".)

III. (d) What would be the best way for you to acquire them? Why?

Don't know. In fact, I don't even know *where* to go to get the information, either!

"*A Non-Computer Person's Guide to Everything*" would be a good start. Information about computers, the Internet, networks. I can't even find a coach.

A one-week seminar that shows me what this PC on my desk can *really* do would be a good start. Then ... a series of updates.

A Ruger (which is a very fine pistol!) to help move people toward change.

IV. (a) What are the biggest challenges your successors will face? Why?

The same problems I face. The consulting business is the consulting business. The tools will vary, over time.

- How to find work.
- How to get it done.
- With whom to get it done.

And – how to have effective decision-making.

IV. (b) What competencies will they need? Why?

Experts in small group decision making ... how to make decisions happen ... how to motivate a group of people to go out and take action. Group dynamics skills. (It didn't seem important when I was in school; it is!)

IV. (c) What would be the best way they could acquire those competencies?

A series of courses ...

- "*Group decision making for Idiots.*" Then ...
- "*Dealing with Competing Interests.*" (etc.)

Keep advancing the level of skill, throughout their career.

IV. (d) What are the best words of advice you'd give to future firm leaders?

"Nothing goes on forever. The client. The market. The business. The staff. It's not all a straight line."

V. (a) If you had it to do over is this a good industry for a career?

Yes. I'm not comfortable with a corporate organizational structure. I need a looser style of organization ... *"Not like GTE!"* Rigid organizations are too rigid, and don't evolve. People are *"Putting in their time."*

V. (b) If you had it to do over, would you still want to be in management?

No. I'd probably prefer to be an engineer, so I could create a product instead of push people around. I'd want to be in a small boutique firm, so projects were small enough for me to put my hands around.

V. (c) When you finish as a firm leader, what would you like to do?

I really haven't thought about it ... and have no vision.

#6. Engineering (wide range), Architecture
350 people
Southeast U.S.

I. (a) What do you see as the future of the industry? Why?

In 25 years, virtually everything will be design-build. Any firm willing to step up to the responsibility will be more successful, because most firms walk away from responsibility. And ... firms who are perceived as Architects or Engineers are trusted more than contractors. It's easier for them to do design-build.

We have to learn to take risk, as an industry. Firms who do will be tremendously more successful. Or else ... contractors could take over the world!

Pure aspects of design are less important to clients ... except when wrapped in a whole package of owning, operating, leaseback ... and other atypical services. There will be less focus on "design-only" functions.

In a couple of years there's going to be a normal turndown in construction. Weak firms, at that point, will show their deficiencies. Firms that are now training and preparing for the future will survive. The focus of their training for the future will need to be on finance and client relations.

I. (b) What do you see as the future of your firm? Why?

We will be 1500 people, in the ENR top 100, and will be a diversified umbrella of companies. We'll saturate the southeast and deep south, and will have 17 offices. We're starting a contracting company, a computer services group, and are constantly on the lookout for new services. And - we're purchasing companies in other geographies.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

Design-Build will prevail. Real estate consultants will be a major part of the industry ... at the expense of the A-Es, because they'll be controlling projects. CM and Program Management aren't really working to the client's satisfaction. Another service group will emerge - which I'm calling Real Estate Consultants - who will be in charge of projects.

The lack of construction labor will slow down highway work. Firms that have become dependent on that market will probably have some downshifts. More of that work will also shift to repair, rather than new ... which requires less engineering.

The municipal market should have renewed funding in the southeast ... particularly water and sewer. \$12 billion will be needed in North Carolina alone ... but will take more than five years to complete.

Environmental is becoming more important in the southeast. We have not been very concerned about environmental here; but we're starting to see regulatory-driven projects. In 15 years, it'll be *extremely* strong in the southeast.

II. (b) How do you expect your firm to be different in 5 years? Why?

Bigger. We're growing at a very fast rate now, and I see it continuing. The market is strong, so we're adding staff. Plus – we're acquiring. We're beginning to enter into the arena of bigger players. I'm not sure how that will change us ... but it will.

My goal is to increase entrepreneurial spirit in the company. Clients are demanding it. But – I'm having trouble finding people who are entrepreneurial.

There's going to be some ownership transition. Many of our acquisitions have principals who will be retiring and cashing out. Finances are going to be critical in managing that transition. Plus – transferring the relationships to others, for marketing purposes, will be critical, as well.

II. (c) What new businesses will you be in? Why?

Computer services. Construction. Real Estate Management. Clients are already asking for the help. We've already begun in two of the three. And I see all three as growing.

II. (d) What businesses will you have left? Why?

None.

II. (e) What new competencies will your firm need? Why?

Top managers. Branch managers. Office managers. We're having a tough time getting people with the right behaviors at the upper levels of management. We need

aggressive people who aren't terribly structured, with good social skills, who are quick to move forward.

II. (f) What would be the best way to acquire those competencies? Why?

Recruit. Just like we need to market all the time, we need to recruit all the time. We can't seem to build it internally. We can't seem to develop a farm team. Our only option seems to be to hire from outside.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

We have to out-recruit other firms, or we won't be able to reach our goals. It's recruiting in management, not in technically based people. (They're a dime a dozen.)

Marketing and client satisfaction. The work is there to get. But you have to know how to get it. Client satisfaction is critical, because I need to take care of the business I have, otherwise I won't get any new business.

Our industry does a very poor job of recruiting. They don't see it as a priority. And they don't understand what it accomplishes. Most firms don't actively recruit; they just wait for resumes to come in.

III. (b) Which challenges will you need to help them address, personally?

We've been trained to do most of the things I believe we need to do. My job is keeping up the stamina *after* training. I need to be continually pushing people to follow through on what we've learned, so they don't fall back on old habits.

III. (c) What knowledge/skills/information will you need to address these issues?

(Not sure.)

III. (d) What would be the best way for you to acquire them? Why?

(Not sure.)

IV. (a) What are the biggest challenges your successors will face? Why?

Keeping up the entrepreneurial spirit. Being visionary. I've mapped out a strong plan for the firm, while I'm here. My fear is: *"What will be the next vision?"* (... as opposed to focusing on past performance.)

IV. (b) What competencies will they need? Why?

General management. Marketing. They have to know how to bring in work. Project management; they have to understand the new and shifting roles of a project manager. Recruiting. Motivating employees. And ... the ability to train others.

IV. (c) What would be the best way they could acquire those competencies?

First, finding people who are already capable. "Capable" means people who see *management* as important, and who want to share their skills.

People will be taught by their supervisors ... who have been taught by an officer of the company ... who has been taught by a consultant.

IV. (d) What are the best words of advice you'd give to future firm leaders?

"Always strive to be on the leading and cutting edge. Don't be afraid to risk and make mistakes; some efforts may fail. Always push the bar; most of the wild things work out ... it's the 'mild' things that don't work."

V. (a) If you had it to do over is this a good industry for a career?

It's not a great career if all you want to do is stay technical. You'll be pigeonholed and it won't be rewarding. Go work for government and get a safe retirement. But – it's a really good career if you can bring in work, if you want to be part of the ownership and management structure, and if you are part of the year-end profits.

V. (b) If you had it to do over, would you still want to be in management?

Yes ... I can't imagine wanting to be in any other place.

V. (c) When you finish as a firm leader, what would you like to do?

I expect to retire when I'm 60. I want to stay involved in my community, improve my golf game, and travel.

#7. Engineering, Planning
200 people
Northeast U.S.

I. (a) What do you see as the future of the industry? Why?

Less engineering, and more final solution oriented. Firms must become more and more full service ... design, build, own, and operate.

International ... no longer "U.S." Firms from other countries are coming here, because clients love fees that are a lot lower; we'll need to go there. Firms from other countries are also acting as subs to U.S. firms – particularly with their lower fees. Many U.S. markets are becoming more of a commodity, therefore price is becoming a greater factor.

Automation. It's difficult keeping up with the technology. (It could be a backlash against upgrades, because of the financial pressure it creates.) But – if you're not at the state-of-the-art, you really can't compete as effectively in a technically based business. (In a commodity market, fees are less ... and it's tougher to pay for the technology.)

I. (b) What do you see as the future of your firm? Why?

We'll be a fuller and fuller service company. In fact, we'll have a family of companies to do it all. We're already under way.

We'll be considerably more international. We've identified one geography (that I'd prefer not to mention in this survey) in which can develop a solid long-term relationship. In 10-20 years, it could be half of our revenue. The geography is a good cultural fit, and is more stable than other areas in the world. They have a lot of needs, and sufficient non-liquid assets to pay. And they have the will to do the projects that need to be done.

The language of the Internet is English ... globally. CNN is everywhere. Other geographies won't be denied the quality of life they see on TV. And communications and technology will facilitate the international development.

We're also moving into new markets ... such as fiber optics, in which we connect customers to trunks. The market should last for some time. It's just one example of how our core business will broaden.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

More commodity-driven markets, in which greater competition will exist. Our U.S. economy won't be as strong in five years as it is today ... at least not as the same

pace as it is now. This pace can't continue indefinitely. It can't stay "peaches and cream" with Asia and Mexico so unstable, and with much of Europe with high unemployment. The impact is too negative.

II. (b) How do you expect your firm to be different in 5 years? Why?

Today, we're in the "consulting engineering business." In five years, we'll be in the "project delivery business" ... doing whatever it takes to solve the total problem.

II. (c) What new businesses will you be in? Why?

Contract operations. In fact, we're just starting now.

Project financing.

(Other services, such as design-build, are already under way.)

We'll also be doing a greater percentage of private sector work.

II. (d) What businesses will you have left? Why?

Less conventional highway work ... DOT ... especially in the public sector. We'll be letting the markets with "commodity mentality" go. We may do highways in our international geography ... with a better multiplier.

II. (e) What new competencies will your firm need? Why?

We need to continue to improve the "human" side of our business. We need to give engineers better interpersonal skills ... so they can deliver solutions in more diverse, well-rounded arenas.

Communications ... really listening and hearing what people are saying – versus thinking about what to say when they stop talking.

Cultural diversification. We're now teaching a foreign language, in-house, to help a broad base of our people work with our international clients.

Group facilitation skills. The ability to work with groups of all kinds is becoming more and more critical.

Increased entrepreneurship – especially younger people. Clients still want to work with people they trust. Therefore we need more people who can build those relationships ... a broader team. They need to become self-motivated, self-energized, and more able to take risks and think of long-term business impacts. They also have to be able to manage all sorts of projects for clients.

Ability to use technology effectively. Computers and communication – being able to comfortably “plug in” anywhere in the world.

II. (f) What would be the best way to acquire those competencies? Why?

Hiring. We’re hiring engineers from our target geography now, for payoff in five years.

In-house training. We do project manager training “our way” so it fits our style. We also now do it in two languages.

Send people out for training. If our culture isn’t relevant – such as finance, or ISO 9001 certification – we’ll send people out, to learn the issues.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Financial. We need to be able to make a *consistent* profit, through repeatability in operations, so we can hire/train/keep people. It gives a stable internal environment. We can’t plan for new services or new markets or new technology if we’re not stable internally.

Finding good people. There’s a shortage. You can’t do anything without people.

III. (b) Which challenges will you need to help them address, personally?

Both. Plus – I need to help in generating new business ... opening new markets and making specific projects happen.

III. (c) What knowledge/skills/information will you need to address these issues?

An MBA! I wish I were better at the *business* aspects of our business. A “bent” or acumen.

III. (d) What would be the best way for you to acquire them? Why?

Pray! Divine inspiration! And if those don’t work ... drink! ACEC’s Senior Executive Institute looks as though it could be helpful.

IV. (a) What are the biggest challenges your successors will face? Why?

Getting work.

Doing good work – ensuring a quality product.

And getting paid – the business side.

Those three are constants. They also need to be deciding what *their* strategy should be. Thinking strategically, five and ten and fifteen years down the road. Even if they’re wrong, they can recover.

IV. (b) What competencies will they need? Why?

Being decisive. Even a bad decision is better than none. Knowing *when* to make a decision. Information will continue to grow. That can lead to paralysis! They’ll need data on *one* page ... not on an inch and a half of paper!

Interpersonal. They’ll need facilitation skills, to work with *very* diverse groups.

Knowledge of finance and business.

IV. (c) What would be the best way they could acquire those competencies?

Experience. I need to set an example, then create opportunities for others. “Go to *this class*.” “Go start *this venture*.” Coaching and mentoring.

IV. (d) What are the best words of advice you'd give to future firm leaders?

"Power in business goes to those who can develop business. Bring in jobs. Keep customers happy. Keep them coming back. You must know how to get it, do it, and get paid for it to be truly successful."

V. (a) If you had it to do over is this a good industry for a career?

That's a tough question! Overall, yes. It's a good business. You deal with challenging issues. Solving problems is satisfying. And you generally deal with really good people.

V. (b) If you had it to do over, would you still want to be in management?

That depends on the day! I actually can't imagine doing anything else. I did enjoy doing technical work, and then project management work. But I'm driven. I've always felt that I wanted to something *more* ... and needed to keep moving forward. I also derive very high personal satisfaction and a great diversity of experience, as the firm evolves.

V. (c) When you finish as a firm leader, what would you like to do?

Be a mentor or coach ... the firm's "Grandfather." I'd also like to teach, and work with younger professionals. I'd also let people come to me with problems, so I could help them solve them. This would be half of my time.

The other half would be for woodworking. I *always* have something to show for the effort.!

#8. Architecture, Engineering, Landscape Architecture, Construction, Surveying
80 people
Indiana

I. (a) What do you see as the future of the industry? Why?

Strong, based on the age of infrastructure. But – with increased competition.

I. (b) What do you see as the future of your firm? Why?

We're positioning ourselves to be *very* strong. We're developing a stronger staff. We are investing heavy amounts of money in training, coaching, and mentoring. Not just in technical areas, but even in personal finance, so people are stronger when they retire. And we are bringing in people to do different *kinds* of services than we've ever done before, such as: market research; or identifying land parcels for out-of-state clients, to help them assess alternative sites.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

More activity in design-build. More demand by corporate clients. Services requiring non-traditional support. For example, large developers or corporations are coming to our area, but don't know the area. They used to have the land and would tell us what they wanted. Now, we're working them strategically to determine what they should do ... and where.

As another example, a large telecommunications company is putting in cellular towers. We do the traditional zoning, design, construction administration. But putting in cellular towers requires rental agreements – because we're going after air rights on top of existing buildings, with long-term leases. We're also driving around and identifying structures that are a strong match for cellular tower requirements – such as church steeples!

There's also non-traditional aspects of construction oversight. We're becoming the corporate representative to the general contractor. In the old days, the GC used to report directly to the corporation, Now, *we're* in the middle ... and there's no risk!

Local corporations used to be more family run. Then they were bought out by a larger corporation, which is traded on the stock market. They're more organized now. But ...

Real estate decisions are made by the corporate entity, which is outside of our local area. So ... they're more sophisticated, in financial terms, but less sophisticated in understanding the local market. We have to be more organized, in our approach, because the clients have less time. They see it as *our* job to “drive” the project ...

- Knowing when decisions are made;
- Knowing who needs to be involved in decisions;
- Keeping it moving at the local level.

They see real estate as a commodity, and they need to know how their capital is being invested.

II. (b) How do you expect your firm to be different in 5 years? Why?

We'll be bringing people in to take over ... working towards our next succession.

I'll be working in areas with clients, in ways I've *never* thought about. I don't know what those "ways" are ... because they're changing every day.

II. (c) What new businesses will you be in? Why?

Infrastructure. We never thought we'd be in it. Roads. Bridges. Sewers. We've traditionally done buildings. But the city needs so much work done, they've asked us to help.

Traditionally, we've only worked around our city. Now we're going to be working more remotely. We're doing a lot of work for REIT's; they look regionally, at three-to-four-state regions.

Finally, we're going to become a center for information. With more and more outside people coming to our area, we need to be more astute in market research ...

- Understanding the specifics of our region;
- Identifying the potential land parcels; and
- Explaining why certain sites are better than others.

II. (d) What businesses will you have left? Why?

Can't think of any.

II. (e) What new competencies will your firm need? Why?

Managers need to be more versatile with people ... the soft-side skills ... communication. Management needs to learn to manage *people*, not projects.

Project people need to learn to run projects from a *business* perspective. Specifically, they need to be accountable for their decisions to the clients, and be able to talk to the clients in terms of financial ramifications of the project.

Strong communication skills will be critical to our success, at *all* levels. Within the project team. Within the firm. And with the client. And with people who are *affected* by the project – communities, zoning boards, etc.

II. (f) What would be the best way to acquire those competencies? Why?

Training. We've started to do it ourselves. Weekly topics that mostly are attended over lunch. Last year, we logged in an average of over 60 hours per employee, for training. That will be going up.

We're taking a holistic view of our employees ...

Last year, we looked at things such as: computer skills; stress management; how to invest your money personally, retirement; how to deal with problems at home; managing people; and managing projects.

Next year, some topics will definitely need more than a couple of hours. The internal committee is discussing, now, what needs to happen.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Growing the company. It's hard to find good people. We see lots of potential for growth. But we also see different staff demands starting to emerge ... especially with the younger people. They won't work evenings or most weekends.

Spreading the leadership. It's been driven by one person ... me. I need to find people with skill level and interest, to spread the load.

III. (b) Which challenges will you need to help them address, personally?

Training people ... coaching and mentoring, mostly. And finding additional people.

III. (c) What knowledge/skills/information will you need to address these issues?

I like process. I logged in over 200 hours in training, last year. Mostly personal development, goal setting, and how to deal with change. What I really need help with is: how to work with people to develop *their* skills; how to understand “Generation X,” and managing people in an environment that’s changing so fast and in so many different ways ... I need to help them understand what’s going on. And – I need to learn how to manage most effectively within that chaos.

III. (d) What would be the best way for you to acquire them? Why?

I go outside for my education. I go to local university. They’ve set up a CEO network ... 50 people in our area meet quarterly for a day. I’m part of the “Family Business Forum” which looks at families in business together – they have a unique set of issues and problems.

A lot of my learning is outside the profession. I sit on eight Boards, and spend a lot of time looking at other people’s problems ... *great* learning! (Mostly, I’m learning that everyone has the same problems!)

IV. (a) What are the biggest challenges your successors will face? Why?

I see the business as getting more and more complex. Mostly, the complexity will move from a single-person-driven business to a broader-based team. There’s not one emerging leader; there will be a *distribution* of leadership. It’ll be a team environment that has different problems, which will mostly surround communication and how they’ll work together interpersonally.

I see the business as being more capital intensive. That’ll cause them to have to learn how to bring in outside capital.

The bigger it gets, the harder it also gets to keep it going.

IV. (b) What competencies will they need? Why?

Communication skills and interpersonal skills. Specifically, to work in team environments.

Technology ... understanding it, purchasing it, and using it. And ...

Learning to market your skills more effectively.

IV. (c) What would be the best way they could acquire those competencies?

First and foremost – through coaching and mentoring.

There'll need to be some formal education, of some kind ... course work.

And some will simply need to be *experience* ... exposing people to a wider range of experiences, such as involving them in the strategic planning process.

I think I'll need to take each person, individually, and help him or her develop a focused plan for growth.

IV. (d) What are the best words of advice you'd give to future firm leaders?

"Don't give up! Constantly strive to improve and learn. Nothing is static; you're only as good as you were yesterday."

V. (a) If you had it to do over is this a good industry for a career?

Yes. Knowledge-based service providers will be in big demand to support economic growth. It's very gratifying, because the *community* perceives you to be worthwhile.

V. (b) If you had it to do over, would you still want to be in management?

Absolutely! My biggest mistake was not doing it sooner. I've had a *ball* being in charge!

V. (c) When you finish as a firm leader, what would you like to do?

Teach. And increase my community activities. Do more of what I do.

#9. Architecture, Interior Design, Planning
100 people
Northeast U.S.

I. (a) What do you see as the future of the industry? Why?

The direction will continue as it's been evolving: larger, "Mega" firms with multiple outlets – via mergers or alliances – will dominate.

You'll also see some smaller "Boutique" firms.

The "middle ground" firms will find it to be a struggle, because they can't address all of the (internal) business needs they need to address. Profits are tighter. There is too little management time available to work on all the business issues that should be addressed.

From a market perspective, things will continue for some time ... but not for ten years. For now, clients are wanting to spend money. They have it. That will likely taper off over the next ten years.

I. (b) What do you see as the future of your firm? Why?

Our firm will be much larger, and will cut across many regions (in order to become national and still stay personal.) If we want new clients, we need a solid personal relationship. You can't achieve it by flying in and out and expecting to get a job.

We'll also see increased ownership levels in our firm. That will make the firm have greater value – both personal and financial – to more people in the firm. Plus, we'll be making it easier for people to own shares. And ... broader ownership can help provide the capital needed for expansion.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

Not a lot, in five years. The economy should continue for five years ... and maybe afterwards.

II. (b) How do you expect your firm to be different in 5 years? Why?

We'll be diversifying – both markets and geographies – particularly with clients who are more recession-proof (e.g. insurance companies or institutions.)

We'll also be expanding, through alliances we're now putting together.

We'll also have more senior staff people, with a flatter organization. A cadre of strong project managers will be our future ...

*"You've managed one project well.
Now, you'll learn how to manage fifteen projects!"*

They'll have to become "Principals-in-Charge" who can handle multiple concurrent projects that are being done in multiple geographies.

II. (c) What new businesses will you be in? Why?

As many as we can!

A lot of non-traditional services – such as:

- Brokering finances for investors who have money and who want to buy into development projects;
- Development planning;
- Business strategy development;
- Brand identity; or
- Development impact assessment.

We'll move into any area that's a logical extension of what we do.

II. (d) What businesses will you have left? Why?

We're on the verge of leaving "Spec Office Buildings" as a market.

A lot of firms will be leaving "Design-Build." It's not panning out the way they thought it might.

Otherwise, we'll probably stay with all of our core businesses.

II. (e) What new competencies will your firm need? Why?

Definitely the toughest competencies we'll need to develop will be ...

Thinking outside of the box;
then, moving outside of the box; and
accepting what's happening outside of the box.

For example, our 50 year olds simply can't fall back on using their pencils. Their computer is their tool. Similarly, a team may now be located in five offices. How will they manage people when they're not in front of them? A "Virtual Team."

Clients are doing it.

We must be able to.

How can they seize on the things that technology lets them do?

Another competency ... "Business Sense."

A lot of people were in the firm when we had more of a hierarchy. In that case, someone else "took care of the business side," while they did their projects. Now, they need to do it ... especially the financial side.

II. (f) What would be the best way to acquire those competencies? Why?

I'm not totally sure. The "out of the box" competency is really not as much of a teachable skill as it is an attitude.

On the business side, we're involving people in developing new tools to manage the business. That gets their head into it. A lot of dialogue happens. And we do some on-the-job training.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

First, continuing to increase our visibility internationally. If we can transform our image, more substantial commissions will come. Then, we can be recognized for that work. It feeds on itself.

Second, profitability.

III. (b) Which challenges will you need to help them address, personally?

The visibility issues ... building the new “total” firm. Getting into new markets, then having the image evolve.

III. (c) What knowledge/skills/information will you need to address these issues?

All information is good!

III. (d) What would be the best way for you to acquire them? Why?

First, going to a lot of management seminars ... especially those that feature a lot of opportunity for interacting with others. I need to hear what others are doing ... including clients. We’ve never been taught these things, but we need to learn them, so we maintain our kind of culture ... which would be different if an MBA or attorney were running our firm.

Second, through outside consultants ... management consultants, public relations consultants, and attorneys.

IV. (a) What are the biggest challenges your successors will face? Why?

First, being willing to be flexible ... every day ...

*“If this doesn’t work,
let’s try something else.”*

Second, finding their successors. Many new people just want to do projects; they don’t *want* to lead a firm. They’ll need to develop a loyal core of people who will stay and lead the firm.

Third, they need to be able to see 15 years out. And then dealing with the “what if” situations that forecasting suggests.

IV. (b) What competencies will they need? Why?

How to pay attention – but invisibly – so people have a feeling that you:

- Know what’s going on;
- Care about what’s going on; but
- Are not looking over their shoulders.

They also need to be accepting of progress.

IV. (c) What would be the best way they could acquire those competencies?

Institute a “Sabbatical Program.” Four months every five years. People can use the time to gain a better awareness of the world in which they’re working ... but oriented toward their own interests, as well. It helps leadership; you can’t just “do a job for 20 years” and get any kind of perspective.

Second would be a formalized mentoring program.

IV. (d) What are the best words of advice you’d give to future firm leaders?

*“Truly be able to be at peace with yourself, as a designer.
Be able to put yourself in a client’s perspective ...
everything else will flow from that.*

*“Get into a client’s head. Then ...
Look out and see what the client sees.”*

V. (a) If you had it to do over is this a good industry for a career?

Not for everyone; it is for me ...

1. It satisfies my desire to do something creative. And,
2. I like to meet different people and see where they are, in history. Client interaction allows that to happen.

V. (b) If you had it to do over, would you still want to be in management?

I would. I couldn't do it any other way. My personal goal is to have a broader impact ... create a better "whole" than was here before. (The group facilitation session really helped empower me, with both tools and perspectives.)

V. (c) When you finish as a firm leader, what would you like to do?

Go back to school; take something of interest.

Teach ... skills people need ... in universities or in a firm.

Write. Do research on interesting historic issues, then document it.

#10. Engineering, Architecture, Construction (focus: Design-Build)
140 people
Eastern U.S.

I. (a) What do you see as the future of the industry? Why?

Bright! It's always tied to the economy ... specifically domestic.

Increased emphasis on efficiency. The corporations have had an increased emphasis on efficiency, which is paying off. They're now pushing the same expectation on to their vendors.

Our industry is transforming, as an industry. Specifically, the services we are providing are wider ... creating a strong demand for us.

We're also learning to accommodate new technologies ... especially communication technologies. It's making us more efficient.

The future is changing. Traditional services are evolving. You very rarely see an old style architecture or engineering firm, anymore. Specifically, a focused responsibility or a single-source of responsibility is what's becoming most important to a client.

Our services are transparent to clients. They are more "end" oriented. Client have less concerns about process, and look more towards results and performance. Successful firms are increasingly linking to their clients, and are in tune with their clients' *strategic* objectives ... so they understand client issues better. And success is measured differently. The old fashioned practice-bound firms will lose their market share.

I. (b) What do you see as the future of your firm? Why?

Stay focused on the market that we have ... and expand geographically into multiple metropolitan areas, and into more clients.

We (design-build) are a cottage industry. Once we get on an airplane, we lose our charm. In order to be small, and service-oriented, we need to be within 200 miles of our client. If we have offices in more large cities, we can then expand whom we work with.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

Continued emphasis on bottom line. Increased emphasis on unit costs, capital costs, and everyone getting leaner and leaner.

At the same time, speed and agility become critical. Our clients want a product to come on-line as quickly as it can. The planning process takes a long time. Then they shoot a gun ... and want the facility *now!* They're very market-oriented. Getting a product to market first allows them to capture a market.

Ten to twenty years ago, there was more planning with capital. We're now working in planning cycles that look, at most, two to three years out.

Continued outsourcing, teaming and partnerships. It's not in the true sense of the word, because they won't commit to volume. And they really run the team. But they do want long-term relationships.

II. (b) How do you expect your firm to be different in 5 years? Why?

We need to get better at getting more capital. The amount, and cost, of technology that's needed to be effective in the marketplace is increasing. And it's considered a "given" by clients that you have it. Margins are declining. Clients are demanding more ... and are less willing to pay. Therefore, we need to automate, where we can, and increase the quality of our players ... through training. The goal is to raise the risk ... and the reward.

Clients are pushing us to be more of a commodity. They continually want to simplify whom they work with and how they work with them.

We need to get more experienced individuals. We expect to do a *lot* of training ...

- Communication skills;
- Risk management, in managing costs;
- Risk management, in selecting clients with whom we work;
- Automation ... computer skills;
- Project management and marketing skills;
- Industry-specific project skills; and
- Learning to be more aware of the industries they serve.

There's less tolerance, now, for failure. Therefore, we need to figure out a way to have fewer errors than we've had.

The other thing that's critical is quality control of the client and the relationships. We need repeat business ... versus single victories. 60% to 80% of our work should be repeat. We need *clients*, not projects. Clients are forcing us to think about "*What have you done for me lately?*" They have new expectations. Specifically, they

won't allow untrained people on their projects; they want very senior level people ... which is creating dilemmas for us. We don't know how to bring young people up through the firm with those expectations.

Our firm will be more family- and people-oriented. My assets walk out the door every night! We're realizing that we need to pay more. And, we can't treat people like a commodity. We need to learn how to tell people that they're special ...

- We have company picnics;
- We send spouses flowers on their birthdays;
- We send congratulations for anything that anyone in their family has done.

With the tightening labor market, our people costs are rising. Our customers think there's been no increased costs in our business, because inflation is flat. But our labor cost has increased at least five percent per year for the last five years. Our capital costs have escalated, too. And yet, we're charging our clients *less!*

II. (c) What new businesses will you be in? Why?

Consulting, consulting, consulting!

Things such as:

- Problem-solving for the client;
- Different technical applications – different ways the clients can use technology to increase their business or make it run more effectively;
- Front-end project development; or even
- Management consulting.

The more up-front work I can do, the earlier I get in. It allows for more bonding with the client. It's really more of a marketing tool. The actual dollars in consulting will probably be fairly small.

We'll also be expanding into markets that require the same type of facility expertise as the market in which we're now entrenched.

II. (d) What businesses will you have left? Why?

We won't do hard-dollar construction. We must have *our* design as part of the project. We will not joint venture; we'll stay prime, with the owner. When we're re-

moved from the client, we find all sorts of problems surface ... and we can't deal with those problems directly.

II. (e) What new competencies will your firm need? Why?

Process engineering knowledge. If we start with the client's needs, in most manufacturing projects, it has a heavy component of specifying equipment, automation applications, and concepts development.

Economics. We need to understand production rates, quality of goods, and how that ties to the manufacturing process.

Project control. The idea is to minimize losses and errors, and to utilize automated tools most effectively.

II. (f) What would be the best way to acquire those competencies? Why?

Hire qualified key people. I can't grow the talent internally, fast enough.

Simultaneously, do training. We need to develop an in-house training faculty. That way we can bring up the skills of young people as quickly as we can.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

In about ten years, we'll need a leadership transition. So ... within five years, I'll need to put the next generation in place. We do not have that generation identified or locked in.

Formalize our structure. We're informal, verbal, and undocumented. We need to start developing guidelines, procedures, and policies.

III. (b) Which challenges will you need to help them address, personally?

Mentoring the new leadership group. And recruiting the outside people. Really, it's *stealing* them from other firms! It's a process of offering them near-term promises of

equity and partnership. Prices – what we get for a project – aren't going up ... even though everyone's busy. We're becoming a less attractive industry.

III. (c) What knowledge/skills/information will you need to address these issues?

Organizational skills. I've got my MBA. Maybe I should study "Organizational Management."

III. (d) What would be the best way for you to acquire them? Why?

A lot of needs to come in small doses. Consultants. Local universities. Educational opportunities. I'd love to be able to sit down with a management consultant and talk about benchmarking ... against what other firms are doing ... and have them take me under advisement.

Access to peers. Forums or exchanges, in a non-competitive environment.

IV. (a) What are the biggest challenges your successors will face? Why?

Making money! Being economically viable. As labor costs go up and margins are thin, I fear they will struggle.

Staying independent. The need to instill capital in the firm, while struggling to make a reasonable return, will make it difficult to stay independent – versus being bought out by a larger firm.

IV. (b) What competencies will they need? Why?

Strong market and client-development skills ...

- To be mature and honest;
- Earn trust and confidence;
- Presentation skills; and

- Learning to develop a higher profile in the marketplace.

Strong people skills, in order to recruit and train.

Technical skills are a given; they're not growing in importance.

IV. (c) What would be the best way they could acquire those competencies?

They have to come to us with formal education. Then, we'll take them from there, with on-the-job-training, and mentoring.

IV. (d) What are the best words of advice you'd give to future firm leaders?

"Decide early in your career that you want to stay in this business. When you commit to the design profession, then get licensed. And then position yourself for leadership."

V. (a) If you had it to do over is this a good industry for a career?

No. Kids are telling us that it's not a viable profession. It's a stagnant, slightly declining industry that's highly competitive.

V. (b) If you had it to do over, would you still want to be in management?

Yes. Management is fun ... getting results through people.

V. (c) When you finish as a firm leader, what would you like to do?

Consult in project management. Teach. And lecture.

#11. Architecture
15-20 people
Louisiana

I. (a) What do you see as the future of the industry? Why?

Architects will take a secondary role, as part of the comprehensive service clients are seeking. As an independent activity, architects won't exist – except at a very small (custom home or office design) or very large scale. Over the next few years, you'll see more consolidation, to create bigger and bigger firms. The leftovers will be smaller and smaller firms.

Concerns and needs go way beyond traditional “architectural” services. Owners need help in areas such as: business planning; demographic analysis; financial operations; project funding; and long-term management. For example ...

The banker wants to know: “*How can I increase my profitability?*” not “How to add drive-in lanes.” “Buildings” are only a small part of the picture. Client see “architecture” as almost in the way ... “*What do we do with that building?*”

I. (b) What do you see as the future of your firm? Why?

Collaborative agreements and partnerships. We need good systems to support other ventures. We won't grow in terms of the numbers of architects, but maybe with others types of people ... Presenters, Computer Systems Specialists, Facility Managers, and Systems Analysts.

We'll be stakeholders in projects, not just service providers. We will have ownership positions in projects.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

We'll be enjoying the gift of a good economy in the public sector. (For example, if Texas builds a school every day, it won't catch up with the demand.)

Clients will continue to expand their emphasis on one point of delivery – the “1-stop shop” – in a way that'll be much broader than just “design-build.”

II. (b) How do you expect your firm to be different in 5 years? Why?

More and more “average” people will be available to select from. Good thinkers won't be available. Therefore we'll need better systems – in communication, in project management, in computing – to help those people be effective.

We'll have more emphasis on technology, both software and communications ... email, video conferencing, project web sites. It's the only way to provide the service that clients want. It also helps small firms do projects that bigger firms can do – with demographic studies, facility analyses, and data searches. The toughest transition will be in providing information and services other than “design.”

We'll also have more diversity in our staff. We may have a business or law school graduate as a project manager; architects don't have the skill, and clients want it.

II. (c) What new businesses will you be in? Why?

More “doing deals for ourselves” than for others. We do a lot of work for which we can't get paid. Why not get the benefit of the knowledge myself? Why give it away?

We'll also be providing support for other professionals ... with graphics, marketing, computers. Many other professions are really struggling. We need to get more payback in the use of our technology.

II. (d) What businesses will you have left? Why?

Public projects. We can't afford to do them. They're defined on a conventional, unsophisticated basis. We can't deliver sophisticated services at the fee scale ... but they want it.

II. (e) What new competencies will your firm need? Why?

Much greater understanding of clients' businesses and operations. We'll need to be able to talk in *their* terms. Then, we'll have to learn how to give them measurable guarantees that ensure return-on-investment ... hitting “business goals,” not “building budgets.”

To quit thinking like “architects.” We have to learn to understand client concerns, and develop responses that work. Describe benefits, and validate them.

II. (f) What would be the best way to acquire those competencies? Why?

I'm really not sure how.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Leadership. Someone who can see and understand where businesses are going. (The insurance industry is great at it!) Not being the leading "ship" ... but designing the "ship." We need to motivate and help others transition themselves to the way they need to be.

III. (b) Which challenges will you need to help them address, personally?

Leadership. That would have the most value for the firm.

III. (c) What knowledge/skills/information will you need to address these issues?

The ability to overcome my own impatience. How to teach people without overlaying my own personality on them? (Maybe just do "intimidation" now.)

III. (d) What would be the best way for you to acquire them? Why?

Stop doing other things; start doing these things. Maybe a sabbatical and training ... then on-the-job training.

IV. (a) What are the biggest challenges your successors will face? Why?

Overcoming their narrow vision.

Lack of risk-taking ability.

Inability to leverage current assets into the future ... what alternatives?

Overall, architects have a low tolerance for change and risk. Even bankers and churches are adjusting faster ... and they are really rooted in old traditions!

IV. (b) What competencies will they need? Why?

Business skills. Entrepreneurial thinking.

Thinking out of the box. Measuring possibilities, and going with the good ones.

IV. (c) What would be the best way they could acquire those competencies?

The firm leadership has to provide (sponsor) it. Don't know what mechanism.

IV. (d) What are the best words of advice you'd give to future firm leaders?

"Be willing to take a risk. Don't be afraid of the future. The next ten years will offer more opportunity than the last hundred years!"

V. (a) If you had it to do over is this a good industry for a career?

Yes. It's the only way to leave the kind of legacy I believe in.

I love to see the result.

V. (b) If you had it to do over, would you still want to be in management?

No. I didn't plan well. I have ton of responsibility by title, not by desire.

V. (c) When you finish as a firm leader, what would you like to do?

Be my own client.

#12. Architects, Mechanical & Electrical Engineering, Industrial Design
50 people
Global (specialists)

I. (a) What do you see as the future of the industry? Why?

Expanding, at least in our niche, labs, because of outdated facilities and new technology.

More design-build – or variations on that theme. More cooperation occurring between architects, and they're coming up with non-traditional styles of putting a project together. The client hires the designer to just do schematics ... then a contractor-led design-build team finishes the project.

Student enrollment in high schools, then colleges, will be up until 2008. By 2010, high schools and colleges will likely be overbuilt. Until then, however, there will be a lot of activity surrounding education.

Universities are taking a more liberal arts attitude towards the sciences. They're not mass-producing people. They're allowing faculty to spend time with students. Even very small colleges are just starting to put in very strong science buildings.

The other thing that's changing in labs: they're all looking more alike – at a higher quality level. And they're *integrating* all of the sciences in *one* lab. You'll see a "research" lab, instead of a biology lab or chemistry lab. They're now having students work on real research teams. Some "elite" high schools will even have some of these research labs.

Laboratories are increasing the amount of support space in relation to the amount of lab space. Most of the increase is coming from computers. More work is being done in computer simulation before going into the lab. This allows industries such as biotech to start quite small – with just a couple of laptop computers. Then they discover something. They test it on the computer. *Then* they go out for funding. Then they test their discovery in a more traditional lab. Then they start building a manufacturing plant ... or sell their discovery. The majority of work that used to be done in a lab will now be done on a computer.

I. (b) What do you see as the future of your firm? Why?

Doubling our revenue in five years, because the market is so strong.

Once we're beyond our current transition, in two years or so, part of the growth will come through acquisitions. Some will be small, specialized engineering firms that support labs. Others will be lab designers in different geographies, because clients are wanting us to be closer to them.

Either way, I do see us staying in our current niche ... labs.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

Different kinds of labs will be evolving. In biotech, medical, and nanotechnology, labs will be a lot more specialized. A lot more buildings will need “clean” technology, due to pollution or vibration.

In chip fabrication, they throw buildings away after five years, because they become obsolete. The goal will be to find re-use of these buildings.

II. (b) How do you expect your firm to be different in 5 years? Why?

Better educated, small (horizontal) teams working on computers, on more projects. We’ll have more project principals, and fewer “worker bees.”

I see more complicated project management. Contracts and legal issues are requiring more time, better notes, and a better paper trail. As we convert to new technology, we’re also having more difficulty accessing old technology. It’s more of a challenge to have a permanent document of what the building is going to be.

II. (c) What new businesses will you be in? Why?

Strategic planning with clients, to help them understand where they need to go. As technology advances, we’re being asked to help solve clients’ technology problems.

We’ll also be offering a broader range of engineering services: fully automated facilities; industrial hygiene issues; and specialty processes within chip fabrication. We’ll get that through a virtual staff of specialists ... people who may not be full time, but will have some form of contractual arrangement with us.

II. (d) What businesses will you have left? Why?

Smaller projects. We’re getting a better understanding of what’s profitable for us, so we’re being more selective.

II. (e) What new competencies will your firm need? Why?

Better educated people. Everyone needs to be fully versed in computer graphic information, especially 3-D technology.

Finances. First is client budgets – what does it cost to do what. The other is internal – making more conscious decisions with money ... money management ... understanding how money comes into the business and how budgets affect the firm.

Better client understanding. We need to be more of a psychiatrist, so we better understand where a client is coming from ... and so we can better serve our clients.

Continuous learning. Knowing how to get information ... how to organize it ... and what to *do* with it, once we've got it.

II. (f) What would be the best way to acquire those competencies? Why?

In-house seminars and coaching .. us teaching each other. That's escalating. If you're forced to teach something, you *really* learn it!

Hire ... higher quality people. We're getting rid of our technicians – CAD operators, etc. We're needing someone who has an A-E background *and* a background in sciences *and* is computer literate.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Passing the wand! Having a transition that works smoothly, while maintaining our quality.

Bringing up the young people who will be in line, after us.

Passing on the knowledge that we have.

And staying competitive ... marketing, maintaining client contact, keeping costs down.

III. (b) Which challenges will you need to help them address, personally?

I'm personally mentoring the younger staff, in how to do a project. I'm teaching people client understanding ... how to listen to clients *without* coming to major conclusions too quickly.

III. (c) What knowledge/skills/information will you need to address these issues?

Communication skills. Specifically, better speaking skills ... more clearly and more precisely. And staying on track ... I love to wander.

III. (d) What would be the best way for you to acquire them? Why?

One-on-one coaching by professionals. And, mentoring from other senior friends.

IV. (a) What are the biggest challenges your successors will face? Why?

Proving you know you've been there, with clients. We "elders" command attention; the younger people don't.

There will be a lot more competition.

Being imaginative ... creating better solutions, not just recycling old ones.

Too many people want to be "the boss." They're having a hard time determining who should be in control.

IV. (b) What competencies will they need? Why?

Business management. They're not taught that. How to run a business, and stay in business.

IV. (c) What would be the best way they could acquire those competencies?

An ongoing program, taught in-house on a regular basis, taught by both internal and external people.

IV. (d) What are the best words of advice you'd give to future firm leaders?

"Know when to remove yourself from the firm.

"Learn the ability to work as a team, versus as individuals.

"Be sensitive to each other, and don't force people to do things they can't or shouldn't do. Utilize people in their best light."

"Structure the firm in a way that allows for personal growth. If you can better an employee, in any aspect, you'll get better work.

"Love what you do. And make sure everyone on your team loves what he or she do.

"Be sensitive to clients.

"Pay close attention to the finances.

"And learn how to manage projects better and quicker."

V. (a) If you had it to do over is this a good industry for a career?

Yes. I love this ... if you don't want to make a bunch of money. Being highly specialized is very rewarding.

V. (b) If you had it to do over, would you still want to be in management?

No. I want to deal more with clients. Solving their problems is much more fun.

V. (c) When you finish as a firm leader, what would you like to do?

Continue as a resource and mentor to the firm. I like the business and people. I see myself acting as a consultant to them.

I would also like to go back and do things I did as a kid – especially photography and model railroads.

#13. Architecture
25-person firm
Alabama (general); National (specialist)

I. (a) What do you see as the future of the industry? Why?

Strong workload should continue, until the Boomers begin to retire. Then, a lot of square footage may open up. They'll begin retiring in ten years or so ... although they may begin to retire earlier. The boomers will start to pull money from the stock market ... which could create problems.

A lot more communications in the design team will be happening on the Internet. You'll see more sophisticated CADD, therefore fewer non-technical staff. Less mail; more e-mail. Faster communications means fewer intermediaries. Therefore you'll see no draftspeople and fewer clerical staff.

Firms will diversify into a broader service range, but with more specialization by many firms. You'll see teams of specialists. More operations services ... such as facilities management. More work with clients in strategic planning at their corporate level ... what buildings to keep, which should be sold, which renovated or used in some different way. It'll all be linked to their financial management.

As firms focus on specific client types, they'll also need to work in a larger geography, to sustain their workload. Technology makes that easily done, however.

More focus on quality relationships. As moral problems – and lying – increase at all – even the “top” – levels in our society, client must trust people with whom they work. Instead of spreading the work among low bidders, they'll pay a premium to have a quality firm bonded with them and serving them well. Facilities involve a lot of money to them. Firms will therefore see a lot more repeat and referral work.

You'll see more emphasis on technology. Those firms without it, won't survive. For example, AutoCADD 11 and 12 are already “history.” Newer software can do better design, faster, with better cost control and a better ability to test options. It cuts time ... which can open more time for design, for exploring more options, for more profit ... or for some balance of the three.

Technology is tying CADD with codes – building codes, exit codes, ADA requirements, etc. – and design standards within the software. Codes and standards are coming together nationally, which will provide greater consistency.

Design-Build won't replace standard practice. As our moral fiber deteriorates, clients lean to contractors with integrity and with solid cost control systems. They'll select an architect who's both comfortable and appropriate to their situation.

I. (b) What do you see as the future of your firm? Why?

In future, firm will be staying on top of new technology ...

- Internet options;
- Video conferencing;
- Electronic documentation (all on CD) digitizing as-builts, and operations and maintenance manuals.

Greater specialization ...

- Fewer project types – two or three – and doing them well;
- ADA – it was gangbusters, then stayed busy, now is busier!

Greater revenue dollars per person, with more highly skilled people in the firm.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

Marketplace changes in next five years should go in the same direction as longer term (mentioned above.) Clients are continuing to increase the amount of outsourcing ... though the pendulum could shift ... with more outsourcing, to larger firms

... or ...

Strategic alliances between small and medium firms, or between small and small firms ... which provides a specialist coupled with local firms in many areas. This could happen in many specialties. It's easily done with e-mail, video conferencing, and clients with notebooks. It's more portable and transient. Cut offices. No files needed.

II. (b) How do you expect your firm to be different in 5 years? Why?

Better communicating ability. Systems are getting better, therefore we'll be able to integrate them better. We should be able to end up with a seamless connection with clients and contractors.

We'll also have a better ability to collect, manage, and analyze building data. We'll likely transition from CDs to total web-based data management.

II. (c) What new businesses will you be in? Why?

Research for new products. Methods were inefficient ... heavy catalogs. Now it's easy! Use the Internet and manufacturers' web sites. And you can have drawings

in minutes! We'll be able to make better decisions, faster. We'll be acting more as problem solvers, and less as compartmentalized technicians. We'll become more seamless with a client's business ... with long-term involvement (such as operations and maintenance or facility management services.)

II. (d) What businesses will you have left? Why?

Projects that walk in the door – one-shot clients. They really become a distraction. Plus, they often play games and squeeze fees.

*“Do we really want to do this?
Until we really get to know a client, we can't be that innovative.”*

We'll be continuing to make a more focused investment. With long-term relationships, you're there to follow through on all projects.

II. (e) What new competencies will your firm need? Why?

Information management. How do you organize data so a client can find it? What are the logical routes?

More software knowledge. We'll need to stay on top of what's out there ... and how to use new software to solve client problems.

Better communication skills. Understanding what clients do, so you can help them do it better. (Mandeville is really helpful, here.)

II. (f) What would be the best way to acquire those competencies? Why?

On-the-Job-Training. Mentoring.

Software training. “Just-in-Time” software training, so you learn it when you have the need. You're more motivated, and can apply it right away.

Seminars that are hands-on, skill-building. Then those people evolve their skills and become the mentors of others. It's important to have training aids, so a mentor can use them to train others.

Video conferencing. It's a quick way to get answers from an expert instructor. Less moving of people; more moving of electrons.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Finding people who see things the way we do ... "Systems Thinkers."

III. (b) Which challenges will you need to help them address, personally?

Personnel ... getting good people.

Scope of services, client relations, and systems development.

Staying hands-off enough to know, but not to interfere.

III. (c) What knowledge/skills/information will you need to address these issues?

Ideas! Insights. Learning from others ... "flashes of insight." Conferences need sharing discussions.

III. (d) What would be the best way for you to acquire them? Why?

Talking to people. Reading magazine articles. Researching. Phoning people. And Roundtables.

Could be done on the web. Knowledge – via Internet searches – can now explode in only months ... where it used to take a generation! This could lead to an open dialogue, as well ... a global collaboration (which is already happening in some industries.)

IV. (a) What are the biggest challenges your successors will face? Why?

Haven't thought about it. I guess, being sure a succession structure is in place.

IV. (b) What competencies will they need? Why?

Personnel management ... recruiting, refereeing, firing, encouraging, goal setting, teaming, orchestrating.

Team building ... team development, team maintenance.

Financial skills.

Cheer leading.

Ability to back off and look at the big picture ... the world, the markets, the clients, projects, and our firm ... on a regular basis.

IV. (c) What would be the best way they could acquire those competencies?

For me to turn those areas over to them, one at a time, and mentor them. Give them an overview ... an outline ... then discuss how-to details ... then coach.

IV. (d) What are the best words of advice you'd give to future firm leaders?

"Your security and your value are directly proportional to your willingness to feel responsible for the benefits and success of others."

"The more you make a client successful, the better the two-way relationship."

V. (a) If you had it to do over is this a good industry for a career?

Yes!

V. (b) If you had it to do over, would you still want to be in management?

Yes. It's more interesting. I like being involved with people more than "things."

V. (c) When you finish as a firm leader, what would you like to do?

Mission work ... travel and do for others.

#14. Engineering, Architecture
50 people
Mid-Atlantic

I. (a) What do you see as the future of the industry? Why?

I hear “Mega and Boutique.” And I see a lot of mergers. We could evolve, like accountants, into a “Big 4” or “Big 6” ... in which we’ll serve more as “general advisers” providing a full range of support, well beyond engineering or architecture. It could include finance, operations, human resources management ... a whole range of roles that spin off of concerns about “facilities.”

I’m not sure firm size does matter, totally. You’ll see development of greater in-depth trust with owners. And we will be doing a lot more for them. But what matters most will be our ability to think *expansively* ... not in narrow “engineer” or “architecture” limits.

We’ll all have to think more globally, also. A lot of people are hesitant to look internationally – reading about uprisings in Indonesia and elsewhere, or new atomic tests in India. But the overall market will follow the population shifts. Some firms will piggyback with their clients – an industry wants to expand facilities into another country and takes them along. Other firms will go it alone, and develop relationships and an office and whatever’s needed to work in a country or region.

While most of the overseas expansion will be prompted by corporate and industrial clients, governmental clients cause it to happen, as well. Overseas municipalities or larger governments see our firms as being solid. They call their corresponding entities ... who refer those clients to specific firms.

Growth beyond our borders will outstrip our own growth. The greater the rate of growth, the more lucrative the market. Here, the government agencies talk about “Qualification-Based Selection” ... but they essentially have the monopoly and make the rules, so they pin our rates down, tightly.

Another source for international work will come from overseas firms, who also hold us in high regard. They’re looking for firms of similar size with whom they can team. The firm of 25 doesn’t want to bring in the giant firm of 10,000. They fear they’ll be swallowed up. And firms of 25 *think* and *act* differently than firms with a cast of thousands.

I. (b) What do you see as the future of your firm? Why?

We need to grow, in order for our younger staff to move up at a faster rate than the older people may retire. Or – we could end up merging with a large firm. We also need to grow because some of our clients think we’re not big enough for certain work; if we don’t grow, we could increasingly lose work to larger firms.

We'll be reorganizing our firm along a *client group* basis, by market type. Then we can be seen as experts in that market. Within each group will be the full range of skills needed by that type of client.

We'll also be more geographically diverse ... with more regional branches ... to support our growth goals.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

The Federal government has devolved themselves of many issues. The authority will rest more with state, county and municipal government levels. Very few grants will be around. Therefore, smaller municipalities will need expertise to help them pull their act together ... strategic planning, financial management and funding, operations, everything.

In our area, we're also seeing a tremendous growth in *very* high-end homes. (One client did an 11,000 sq. ft. guesthouse for their 22,000 sq. ft. home. And it's the client's 3rd or fourth home!)

II. (b) How do you expect your firm to be different in 5 years? Why?

We need to identify the successors to the current management, by the end of the five coming years. Then we can begin to prepare them, over the next five years.

We also must be *driven* to become as *efficient* as possible. In our administrative practice, and on our projects. This hot economy won't last forever. When it does turn, we need to be ready. Technology will help ... and the new, younger staff aren't afraid of computers.

II. (c) What new businesses will you be in? Why?

Several communities have been hesitant to extend their water and sewerage systems beyond their incorporated limits. Yet, that's where all the growth is! We'll likely end up developing water and wastewater systems as a *private* company, if we can find the financing.

II. (d) What businesses will you have left? Why?

Surveying. It's cut throat. Plus – the new technology cuts the need for as many people. GPS on a tripod does wonders!

Also: drafting services. The demand is there. But it's a different mindset than approaching clients with expansive thinking and a problem-solving attitude.

II. (e) What new competencies will your firm need? Why?

Leadership skills ... the courage to be able to step out and be “problem solvers,”

II. (f) What would be the best way to acquire those competencies? Why?

Outside seminars. Computer-aided instruction didn't have much impact. It was self-paced, and convenient, but didn't fire people up.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Leadership transition.

And – keeping the mindset that we're all working *together* ... one firm, versus several offices that are working independently.

III. (b) Which challenges will you need to help them address, personally?

Both. The latter is the most immediate. If we don't solve it, we could break up the firm.

III. (c) What knowledge/skills/information will you need to address these issues?

A network, in which to exchange ideas with others.

III. (d) What would be the best way for you to acquire them? Why?

Roundtables.

I've also enjoyed a network of relationships with my ACEC involvement.

IV. (a) What are the biggest challenges your successors will face? Why?

Adapting to a new workplace. Internally, because a younger generation of managers may be more sensitive to younger staff. And externally, because clients are changing quickly, too. (In fact, our next leadership generation will likely skip an entire *generation!*)

IV. (b) What competencies will they need? Why?

The ability to reach a consensus, *quickly*. It's more critical now. The older generation was more "control" oriented, with heavy monitoring. It's all new, now.

IV. (c) What would be the best way they could acquire those competencies?

Taking an active part in a professional association (e.g. ACEC, PSMA.) The tools are there. The involvement will help them build skills in working with people.

IV. (d) What are the best words of advice you'd give to future firm leaders?

"Never think you know it all. Continue to work with people ... and to learn from them. They'll help you become a good leader. Continual learning."

V. (a) If you had it to do over is this a good industry for a career?

Yes. When I look back, I've really enjoyed reasonable compensation and satisfying work ... with good people and on good projects.

V. (b) If you had it to do over, would you still want to be in management?

Yes.

I enjoy working with *people* ... making something happen ... building consensus.

V. (c) When you finish as a firm leader, what would you like to do?

Get involved more as a *management* consultant, to help clients find good firms, organize their financing, etc.

I'd also like to assist in my community, in general. They need the same skills.

#15. Engineering, Planning
600 people
Global (specialist)

I. (a) What do you see as the future of the industry? Why?

Bright! The infrastructure is getting a lot of attention ... and is seen as a symbol of our quality of life. A lot of money is being spent to restore and improve it. That expenditure should continue for some time.

I. (b) What do you see as the future of your firm? Why?

Good. We're primarily in transportation. The market demand is growing. Public desire for improvements is strong. The money will follow.

We will see a lot of competition. Design-Build is bidding competition. Innovative contracting styles will evolve. We'll likely be involved with more public/private partnerships. It eases financing – especially cash flow.

Last year, design-build was 15% of our work. It'll increase this year. It could be 25 - 30% in a couple of years ... and then should plateau. Design-build is best for big projects -- \$75 - \$100 million. Those are huge investments and design-build gives clients more protection.

We'll also become even more hi-tech. Better computers. Better survey equipment. Better testing equipment.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

International work is increasing substantially – especially in third world countries that want to develop their economies. They'll need infrastructure ... transportation in all modes; telecommunications; water and wastewater management.

Domestically, more money will be spent in transit for cities ... and for airports, too. Air traffic is growing quickly. Transit systems don't pay their own way – but – they are a lot less expensive than buying right-of-ways to widen highways! Therefore, when you look at the total picture, they are less expensive.

Inter-Modal (i.e. container shipping) will grow, because the Asian market is driving it. They had 20% growth per year for almost 20 years. Since their economic problems have set in, they've slowed to a 5-10% growth rate (... but it's still growing!) Rail systems are at capacity for freight movement. Rail is like a "land bridge" between ships and trucks and distribution centers.

More A-E money will be spent on environmental issues. It used to be 5-10% of the fees. Now it's 20-30%. This should plateau, as the environmental movement has been losing some ground.

II. (b) How do you expect your firm to be different in 5 years? Why?

We're becoming more client-focused than project focused. The market increases as funding increases. But talent is not as available; it's tough to find really good people. Our best people must also have solid client relationships. Clients are looking more and more to people they know and trust. They're pre-qualifying firms with standards such as ISO-9000. Then they hire the best people.

In that way, we'll be doing more repeat work for the same clients. Some will be through IDCs (Indefinite Quantity Contracts.) Some will be competitive selection. But it'll be increasing difficult for new firms to get into the rotation with firms that have established relationships. (As we expand, it'll be increasingly better to buy a firm that has those relationships than open a new office.)

Design-Build is more project-focused. Low bid wins. It's therefore a different kind of marketing. Sometimes, however, clients have "Quality" ratings, with a 100-point maximum. They'll divide your quality score into your bid, and select the bid that represents the best value.

II. (c) What new businesses will you be in? Why?

We'll be deeper into ITS (Intelligent Transportation Systems) work. It's so expensive to add capacity through new lanes that they'll use congestion management to improve the efficiency of existing roads.

We'll also be providing more services in the areas of: construction services; claims; and constructibility reviews.

We'll also be doing a lot more hydroelectric work. Asia will be experiencing a huge power shortage, especially India and China, in the next 10-15 years. We've had a small hydroelectric group for some time. They've already got a big overseas job. A lot more should follow. Some projects will be design-build. Some will involve privatization ... finance, design, build, operate ... and then let it revert to local owner-ship in 30-50 years.

II. (d) What businesses will you have left? Why?

Can't think of any. Our markets should all have longevity.

II. (e) What new competencies will your firm need? Why?

A lot higher level of computer literacy! Software also grows with technological advancements. Getting people trained in new software is a constant battle. We need the technology to maximize our efficiency. We'll be hiring people with those skills – or training our own, if we can't find the new people.

Second, we can't just be "engineers." We increasingly need people skills. We need to be able to interact better with clients and with the public ... such as through the public involvement process.

Third, we need people who are able to market – on the relationship-building side – before, during, and after each project. Before, to help us win. During, to ensure client satisfaction, keep the relationship strong, and identify upcoming projects from the same client. After, to follow-up, to ensure both client satisfaction and project performance, and to identify upcoming work from that client.

II. (f) What would be the best way to acquire those competencies? Why?

The best method would be a Ray gun! Just zap the competencies into one of their ears as they come into the office.

Second best would be if they could come out of the universities with those skills. The schools did add environmental courses and even degrees as that interest grew. But they've never included marketing of public involvement or finance skills.

Third is internal training. We have a 40-hour project management training course, taught in 4-hour segments. We've sent 20% of our firm through it. It includes marketing – but not public involvement, negotiating, estimating, budgeting, cost and schedule control systems, MIS, time management, staffing, labor laws, etc. It's taught, almost entirely, internally, by upper management. That way, it's better tailored to our firm and to our perception of individual participant weaknesses. It also builds a better bond between staff and management.

Fourth is mentoring. We do it informally ... though individuals are discussed and mentors volunteer to look after specific people.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Staffing! Recruiting, retaining, and training people. It's tougher and tougher to find the right people. The labor pool is not keeping up with the market. (As the need and money for consulting services grows, where will we get more people? We can't solve everything by just becoming more efficient.)

It's hard to compete with other firms who offer 30-40% more money. We can match 10% or so, when staff come to us – almost daily – to tell us they're receiving offers.

Loyalty used to be bigger. You'd work for a firm for 3-4 years. Then you'd move on, to get different experience. And after two or three or so moves, you'd find a place that "fit" and would settle in and become a part of that company. No more.

HR is where it's at!

III. (b) Which challenges will you need to help them address, personally?

Being on the lookout for good people.

Bringing in new graduate each year – whether we need them or not. This is especially true for "key" people: good project managers; MIS people; or people with a specialty skill.

Getting my managers to be more innovative – about ways to attract people.

III. (c) What knowledge/skills/information will you need to address these issues?

Numbers and locations of new graduates – particularly those with interests in our specialties (i.e. transportation related.)

Identification of economically "down" geographies, from which we could recruit good people with experience.

Information about what others are doing to retain staff ... incentives, perks, recognition, etc.

III. (d) What would be the best way for you to acquire them? Why?

Have someone put survey information together – signing bonuses, incentives, etc. – into a newsletter or computer.

IV. (a) What are the biggest challenges your successors will face? Why?

I don't relish them their job! It'll be tougher and tougher to keep up. Regulations and politics that affect us – our marketplace and our internal operations – are all changing. We have to go through a lot more hoops. We even have to have professional development units, to keep our registration.

Keeping up with technology. As it gets more user-friendly, it may be easier; it's difficult, now.

IV. (b) What competencies will they need? Why?

Technical competency ... but less than political knowledge. They'll be spending all of their time in administration ... marketing and communication.

IV. (c) What would be the best way they could acquire those competencies?

Mentor people into management positions ... over five to ten years. (I had a mentor coach me for twenty years.)

IV. (d) What are the best words of advice you'd give to future firm leaders?

“Become more rounded. Don't do one thing. Work in different areas, with different people. You'll pick up a lot of knowledge you couldn't get if you locked into one job and department for twenty years. Go to different locations, too. Experience different ways to get a job done, and to handle people. You'll experience different philosophies with different bosses, different clients, and different political bodies.”

V. (a) If you had it to do over is this a good industry for a career?

Absolutely! No doubt. I've really enjoyed what I've done.

V. (b) If you had it to do over, would you still want to be in management?

Yeah ... I think so. (Some days, I wonder!) It's easier to do projects, but management becomes more challenging. Plus – management provides the rewards to co-ver the pain!

V. (c) When you finish as a firm leader, what would you like to do?

Fish! And, I'd like to consult with my firm on special assignments ... not a day or two a week. That way, I'm in better control of my own schedule.

#16. Engineering, Planning
25-30 people (+ subsidiaries)
Virginia, Central/South America

I. (a) What do you see as the future of the industry? Why?

Bigger firms are buying smaller firms. Clients are seeking 1-stop shopping ... plan (strategic or master planning); develop; finance; design; build; operate; even ownership (privatization.) The same is happening with suppliers (e.g. U.S. Filter can now provide *all* of a client's needs.)

If other firms are not part of this movement, they'll wither on the vine.

I. (b) What do you see as the future of your firm? Why?

We're moving to becoming a 1-stop shop. We're on the cutting edge of a niche in a growth market that should be at least a 15-year wave. (I'd prefer not to mention the specific market.) The market requires us to become skilled in a variety of spin-off services ... all of which have virtually no competition.

Even in more traditional markets, such as "Municipal infrastructure," we're gearing ourselves to becoming a 1-stop shop. Then we can "get in" and do everything, on a sole source basis.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

It's getting more competitive. Clients are wanting work done faster, better, with more electronics, and for less fee. Those markets (e.g. municipal infrastructure) are relatively stable and continuing. But client *service* expectations are changing!

II. (b) How do you expect your firm to be different in 5 years? Why?

We're getting *away* from competitive market situations. It'll cost more and more to bring in the same amount of work. And in competitive markets the fees are lower!

If we do full service, we can make a reasonable amount of money in financing, in design, in construction, in operations ... and even in leasing.

We'll be working with other firms – architects, mechanical and electrical engineers, etc. – and will buy a construction company. We'll likely organize an "umbrella"

company to provide centralized marketing and accounting and HR management for each service center.

II. (c) What new businesses will you be in? Why?

We'll expand from conventional E-A skills into environmental areas. Plus, we'll need to be able to do a *variety* of "studies" ... for base clean-ups; for "suitability analysis" if military bases or industries looking to locate in a new community. We'll have a lot more involvement in development deals.

II. (d) What businesses will you have left? Why?

Chasing small assignments – under \$20,000, for example, from one-time clients. They just get in the way. Banks and developers often want small studies or site plan designs for small sites. (Plus – developers don't want to pay. They use us. No more!)

II. (e) What new competencies will your firm need? Why?

Ability to provide more services related to our niche market – which is significant.

II. (f) What would be the best way to acquire those competencies? Why?

Hiring. It's difficult to get good people. When we find someone good, we hire the person – whether we need what the person does at that moment or not. Then we'll figure out the best way to use that person.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Getting on top. Staying out of competitions and price beating. Becoming a 1-stop shop and making deals happen ... sole source.

Convincing others in the firm that change is necessary. Engineers are very conservative. They get comfortable in what they're doing ... and want to do it forever. They don't *see* the trends. They don't *feel* the need to change. (This isn't as big a challenge, however; I can fire the ones who don't adapt!)

III. (b) Which challenges will you need to help them address, personally?

Both. There's no one else to lead.

III. (c) What knowledge/skills/information will you need to address these issues?

How do you know who really knows what they're talking about? Some people – even senior people in their companies tell you they can handle something ... but they can't.

III. (d) What would be the best way for you to acquire them? Why?

The "School of Hard Knocks." And talking to people ... networking with others who are doing the same thing.

Having a bank of people I can call on for answers. (e.g. In finance, accounting, banking, acquisitions, what not to do, etc.)

IV. (a) What are the biggest challenges your successors will face? Why?

Keeping up with the demand!

Once we have all the services in place in our niche market, and as we continue to build our track record, it'll be tough to just keep up with the deals that will come to us, sole source. (It's already happening!)

How to get the job done? Knowing where to go to get answers. Knowing where to go to get, for example, 50 people to take over operations of a major facility.

IV. (b) What competencies will they need? Why?

More than what they have now! International finance. Operations. Taxes. Different ways of making money for the firm ... not just in “engineering.” The business side. How to price a job – especially when it involves planning, financing, design, construction, operations, and leasing – to make money for the firm.

Once we get it going, how will they *keep* it going?

IV. (c) What would be the best way they could acquire those competencies?

It'll be tough. Engineers don't think this way. Some successors probably won't be engineers.

IV. (d) What are the best words of advice you'd give to future firm leaders?

“Learn to recognize when you don't know what you're doing ... and get some help.”

V. (a) If you had it to do over is this a good industry for a career?

Yes. It takes a certain type of person ... a “nerd.” But – that type of person has an interest in *detail* ... which can lead to a good career. Plus – that type of person can apply the same bent to other *aspects* of engineering. And ... the person can begin to assemble different technical areas (e.g. finance or construction or operations) to really make things hum.

V. (b) If you had it to do over, would you still want to be in management?

Yes. Certain people are bound to be managers, and own the company. They *want* to lead, not follow. Following is good at the start of a career. But later, when you see that your ideas actually work, it's time to “go for it.”

V. (c) When you finish as a firm leader, what would you like to do?

Dabble in some of the companies I've set up. It's difficult for me to slow down and do nothing. Therefore, I see part-time involvement – and revenue. It's amazing to see the absolute *killing* I can make from some of the least innocuous spin-off businesses we've begun!

#17. Architecture, Engineering & Interior Design Firm
600 people
Midwest

I. (a) What do you see as the future of the industry? Why?

Further consolidation, like add agencies and accountants. Fewer firms and more large firms. I'm an optimist because people are still concerned about the environment. Design/build isn't going to flourish because owners need and want the check and balance that independent architects and engineers provide. Our industry will have to take on some new competitors who will have bigger balance sheets. The industry will be more global. Offices will be doing work around the world, out of local, multiple offices.

I. (b) What do you see as the future of your firm? Why?

We will be consultants, solving our clients' needs, except that we are likely not to be in construction. That's still an open question.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

The marketplace will want us to be better at alternative forms of project delivery. In the short term, we may have more design build but I think we'll have less in 10 years. Clients will also have more appreciation for the environment so they'll be more concerned about life cycle costs vs. first costs.

II. (b) How do you expect your firm to be different in 5 years? Why?

We'll take care of our clients' worldwide needs. We'll be a part of alliances covering different geographies of the world.

II. (c) What new businesses will you be in? Why?

We will be in new businesses, but I'm not sure what. We'll be providing solutions that relate to the natural and built environment.

II. (d) What businesses will you have left? Why?

We'll likely not be doing contract documents in the same fashion as we do them today. Our design process is probably going to be more closely linked with the construction process.

II. (e) What new competencies will your firm need? Why?

We'll need to be better at consulting and helping clients work out the financial aspects of their solutions. We'll have to be better at the organizational side of our clients in designing buildings with them that make their organizations more productive.

II. (f) What would be the best way to acquire those competencies? Why?

Hire them, and once we get them we'll train them to become leaders.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

We'll be further along in succession planning, but it will still be a major challenge. The toughest thing is to develop the capacity for strategic thinking.

III. (b) Which challenges will you need to help them address, personally?

That's my job.

III. (c) What knowledge/skills/information will you need to address these issues?

How to create flatter organizations. How to differentiate ourselves and how to be a more effective cheerleader and supervisor.

III. (d) What would be the best way for you to acquire them? Why?

Reading and through discussion with my partners.

IV. (a) What are the biggest challenges your successors will face? Why?

Leading the next generation, helping that next generation cope with finding a balance between "jobs and work", that is, people will want the ability to work in a flexible way in terms of time and that may not translate to what we today call a regular job. They'll also need to be better at motivation and figuring out how to keep the organization together.

IV. (b) What competencies will they need? Why?

One unique competency they'll need is how to lead a much more independent group of people; people won't take being told what to do.

33

IV. (c) What would be the best way they could acquire those competencies?

Formal education, involvement in outside organizations.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Plan for the future with a lot of flexibility; figure out how to make a lot more money for the business because your capital needs will be so much greater.

V. (a) If you had it to do over is this a good industry for a career?

That depends on what my career goals would be today if I were entering the profession. If I wanted to make a lot of money I'd be better off in an emerging field.

V. (b) If you had it to do over, would you still want to be in management?

Yes, because it's the best place to support people.

V. (c) When you finish as a firm leader, what would you like to do?

Maybe pursue a second career in real estate; like to be a "wise elder". I'll probably volunteer for some charitable causes.

#18. Architecture, Engineering, Environmental, Planning, Survey
2,000 people
National

I. (a) What do you see as the future of the industry? Why?

The environmental industry will be global and there will be a transition from how we've been doing business as consultants selling hours. Much of the business will be design/build where the engineer both procures and constructs. Our industry must decide how much risk we must take in this arena. There will also be a lot of privatization, where we'll not only design it but build and operate the facility.

Projects will be bigger and most of them will need program managers. We will have had to find a way to change the downward spiral of our margins. Industry growth has been modest, about 5-6 percent a year and will probably remain that way in the US. The industry's capital needs will be greater and it will be a real challenge to find enough money to operate our businesses.

I. (b) What do you see as the future of your firm? Why?

We need to improve our profit performance. We need to be better business people, operating in a stronger business culture. We need our top team to grasp the importance of business.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

Just about what I've told you so far.

II. (b) How do you expect your firm to be different in 5 years? Why?

We will have figured out how to use technology to render better service because it's not helping us do the work any cheaper. We'll also have better communications, meaning that we'll be able to put our product anywhere in the world.

II. (c) What new businesses will you be in? Why?

Design/build.
We will have diversified through mergers and acquisitions.

II. (d) What businesses will you have left? Why?

None

II. (e) What new competencies will your firm need? Why?

To be more effective at community-based practices.

II. (f) What would be the best way to acquire those competencies? Why?

We'll grow our own, or we'll hire them.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

My role is to focus on the vision and mission, and to express my belief in them so that I and others can design tactics. One of our biggest challenges is that we've not been very good at implementation, or dealing with banks.

III. (b) Which challenges will you need to help them address, personally?

I have to get better at helping our top managers grow.

III. (c) What knowledge/skills/information will you need to address these issues?

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III. (d) What would be the best way for you to acquire them? Why?

Send them to the top business schools and create forums in which they can learn from our colleagues.

IV. (a) What are the biggest challenges your successors will face? Why?

The same challenges I face but tougher.

IV. (d) What are the best words of advice you'd give to future firm leaders?

It is better to ask your subordinates questions than to tell them. It's critical to have good listening skills. Always deliver the product your client expects. Become a better businessperson.

V. (a) If you had it to do over is this a good industry for a career?

This is a good industry. Projects make me feel good, we change society. For example, around drinking water. We change the quality of life.

V. (b) If you had it to do over, would you still want to be in management?

Yes, because in management I've had a chance to mold careers.

V. (c) When you finish as a firm leader, what would you like to do?

To give back, maybe to teach. To serve on non-profit boards.

#19. Architecture, Engineering
200 people
International

I. (a) What do you see as the future of the industry? Why?

Our industry is too narrow. It needs to be widened with other capabilities. We need to go back to being the master builder. Our traditional services will change, will either control the design and construction process as a vendor or we'll be employees of those who do.

I. (b) What do you see as the future of your firm? Why?

Our firm must enhance the process more than we do at the moment. I expect that we will reinforce our creative competitive advantage, along w/improving our business skills to complement our creativity. We will be providing a bigger-picture view for our clients because we'll have better problem solving abilities. We'll have got past our snobbishness that "business is below us". We will be creating "smart drawings" whose biggest beneficiaries will be our clients. We need more research to support our growth in this area.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

Over the last five years our marketplace has gone global and clients want more quickness. We have to walk the fine line of serving them when they don't see facilities anymore as liabilities, but they don't want them palatial either. Over the next five years they'll want us to be even quicker, the projects will be more complex, and we'll come out of the dark ages in terms of building technology.

II. (b) How do you expect your firm to be different in 5 years? Why?

I expect that we will have adapted to be able to do and address all of the above.

II. (c) What new businesses will you be in? Why?

We'll be managing buildings and providing people to our clients.

II. (d) What businesses will you have left? Why?

-

II. (e) What new competencies will your firm need? Why?

We'll need to figure out how to be a business partner w/our clients to enhance their business. I mean, we'll need to be an equity partner, working to make their business more valuable and then sharing in the rewards. We'll also need the technological skills to figure out how buildings can go together better.

II. (f) What would be the best way to acquire those competencies? Why?

We'll develop these competencies internally.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

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III. (b) Which challenges will you need to help them address, personally?

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III. (c) What knowledge/skills/information will you need to address these issues?

I need to be more aware about technology and how to find the right people to integrate into the firm who will then function as integrators. I need to be better at developing vision and reinforcing it throughout the firm.

III. (d) What would be the best way for you to acquire them? Why?

I already have some of these and I expect to grow them by interacting with the people around me with whom I share knowledge and leadership.

IV. (a) What are the biggest challenges your successors will face? Why?

Just what I've told you above.

IV. (b) What competencies will they need? Why?

Just what I've told you above.

IV. (c) What would be the best way they could acquire those competencies?

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IV. (d) What are the best words of advice you'd give to future firm leaders?

You need to widen your view and to learn to tell clients that you're willing to take on wider responsibility.

V. (a) If you had it to do over is this a good industry for a career?

Yes, it's been rewarding but painful. It's been difficult learning, beginning with architectural school, which was grueling.

V. (b) If you had it to do over, would you still want to be in management?

Yes, my role has been a rewarding one because it involves creatively building a firm of leaders, finding the right people.

V. (c) When you finish as a firm leader, what would you like to do?

Use my talents to help my profession or get more involved in my family, and join our talents together.

#20. Architecture, Engineering, Environmental, Survey
3,000 people
National

I. (a) What do you see as the future of the industry? Why?

We will see much more integration of facilities and infrastructure services so that planning, engineering, construction and operations will be more bundled together with a single point of responsibility. Information technology will have made a huge impact by virtue of much more rapid communications.

I. (b) What do you see as the future of your firm? Why?

Our firm will look like a large firm responding to this marketplace need. We'll be distributed around major marketplaces, with information technology allowing us to operate the firm in a seamless way. In many ways we'll be a virtual organization, accessing resources from any place within the firm. Because the industry will require larger organizations to serve its clients, our firm will continue to be among those that continues to grow much bigger.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

As above

II. (b) How do you expect your firm to be different in 5 years? Why?

As above

II. (c) What new businesses will you be in? Why?

GIS and more sophisticated information technology

II. (d) What businesses will you have left? Why?

None

II. (e) What new competencies will your firm need? Why?

Finance, analysis and financial planning, real estate management planning

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

As above

III. (b) Which challenges will you need to help them address, personally?

My job will be to help my people address all of them.

III. (c) What knowledge/skills/information will you need to address these issues?

I need to be more aware about technology and competitive issues and to be more proficient at developing stars, creating an environment in which they can make a larger contribution.

IV. (a) What are the biggest challenges your successors will face? Why?

My successors will face the same challenges I face: complexity, the pace of change, and the ability to lead large teams.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Given our global environment, learn a lot about the rest of the world by being there. Get a mentor. Participate in your community. Become adept at networking in the firm and with others.

V. (a) If you had it to do over is this a good industry for a career?

Yes, because you can move into exciting roles.

V. (b) If you had it to do over, would you still want to be in management?

Yes but I would have been better at it with international experience and with more skills in technology.

V. (c) When you finish as a firm leader, what would you like to do?

I'll probably stay in the corporate leadership arena, serving on boards of directors. I'll also be active in my community; I'd like to provide some leadership in education, and play the piano and raise violets.

#21. Architecture, Engineering, Planning, Construction Management
1500 people
Western US

I. (a) What do you see as the future of the industry? Why?

The big players in the industry will be international; they will have eliminated boundaries in South American and in SE Asia like in Europe and we'll be serving all those markets. However, there will always be a place for small, specialist niche firms. There are too many architects, all the result of more or less the same design education. They are trained like doctors, individually, so that when the chips are down, they rely only on their own judgment so they're parochial. Society's rebelled against the doctors and butchered our medical system and our profession will be facing similar problems. The large global infrastructure problems are not one or two-man problems.

I. (b) What do you see as the future of your firm? Why?

There's a useful analogy in the failure of department stores that once said "we can do everything". It doesn't work. A niche player can do it better. Our company will relate to the individual architecture of each region that we serve and be able to meet every one of their technical needs. Like a department store today, such as Macy's, we'll be a collection of boutiques. We'll have a different structure and a market image. It's really critical to maintain culture and esprit de corps. It's hard to maintain identity in a large bureaucratic structure, so we will continue to be multi-cultural, yet we also see employees being part of a big company, and not just a part of their individual firm.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Our employees are one of our most significant challenges. They're more concerned about family and less willing to make a sacrifice for the company. Many of them are part of two-career families. The traditional sense of employees has eroded. There's been a huge growth of subcontracting by large companies to cut back to the core people.

IV. (b) What competencies will they need? Why?

They'll need to be technically proficient, skilled in human resources, training and finance. They'll have to be good at management, like the conductor of the symphony, and not as good as any individual

musician. Their skill will be in synthesis, putting all the other skills together and imposing their vision on that group. They'll also need to believe that they can do it. Architects' education is not focused on what it takes to be a success or make a difference.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Learn human skills as much as you learn physical skills. Read, be active with clients and learn how to resolve conflicts. Acquire good communication skills.

V. (a) If you had it to do over is this a good industry for a career?

I'm discouraged about architecture. The economics are terrible. An engineer who's a mediocre graduate of a mediocre university can make a better salary.

V. (c) When you finish as a firm leader, what would you like to do?

I want to be a mentor at all levels helping people ranging from CEOs to young practitioners.

#22. Architecture, Engineering, Planning, Survey
700 people
West Coast

I. (a) What do you see as the future of the industry? Why?

In 20 years there'll be big firms and small firms. Mid-size firms will survive only if they have a "large" specialty. We're not likely to see much in the way of non-traditional competitors.

I. (b) What do you see as the future of your firm? Why?

We'll continue to grow, to participate in large projects internationally in Mexico, South America and Asia.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

The environment will be the major market, i.e. because of endangered species. The telecom market, very hot right now, will be very small in five years.

II. (c) What new businesses will you be in? Why?

We won't be in any new businesses but we'll be in new places. We'll continue to focus on California for a lot of our growth, with more expansion in the Southeast. We'll also be more focused on the leisure-time industries, which are strong markets.

II. (d) What businesses will you have left? Why?

We won't have left any businesses, but GPS will certainly have changed the nature of surveying because it's possible we won't have any crews then. Our firm will need much more competency around people issues, employee review, affirmative action, sensitivity skills, listening, and leadership. We'll train people, both internally and by using outside programs.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Getting to value pricing. Undoing government overhead rates. and solving the problem of selling value rather than time. Technology is so expensive and it creates more value, but causes us to spend less time. We'll also deal with the challenge of transition of this firm, the role of the sustainer is very different from the role of the founder. We may have a lot of followers and not enough leaders or doers.

III. (b) Which challenges will you need to help them address, personally?

I need to be more involved in helping us deal with the quality issue. Our industry pays lip service. We need to be involved in more things like ISO 9000 and 14000. My challenge also is to raise our profile.

III. (c) What knowledge/skills/information will you need to address these issues?

My on-the-job training is my primary learning experience. I also go to conventions.

IV. (a) What are the biggest challenges your successors will face? Why?

Whether they can find the capacity to entrepreneur rather than simply to sustain our business.

IV. (b) What competencies will they need? Why?

Clients are pushing responsibility off on us and the legal industry is helping them. Our folks will need skills to deal with this increased risk, they'll also need to be skilled in communications and to find out how to use a consensus style of management for the next generation.

IV. (c) What would be the best way they could acquire those competencies?

We'll use training.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Demonstrating your values, being a role model is critical.

V. (a) If you had it to do over is this a good industry for a career?

Yes, people are friendly and its possible to have a life. Today that gets expressed as flex time and telecommuting. It's also possible to be a licensed professional, like a surveyor, from doing the hard work.

V. (b) If you had it to do over, would you still want to be in management?

Yes, management has allowed me to become wealthy beyond normal.

V. (c) When you finish as a firm leader, what would you like to do?

Stay on as chairman to sustain the culture and the spirit of the firm. I'd also like to raise the profile of the industry and communicate our value and get us all to think of ourselves as more professional. Maybe do something about the widening gap between our industry and the academy.

#23. Architecture, Engineering, Construction Management
5,000+ people
International

I. (a) What do you see as the future of the industry? Why?

The industry is now shaped like a cylinder in terms of distribution of the firms by size. In 5 years it will be more like an hourglass, lots of big firms and lots of small niche players. In 5 years, global competitiveness will be even more intense, especially from the French, the Brits and the Japanese. Project delivery will be more integrated. The industry will need much more capital because more of the work in the future will be done at risk and will require bonding.

I. (b) What do you see as the future of your firm? Why?

We'll be a key player in our markets, with a major market share. We'll have made rapid global expansion, building on existing opportunities outside of the US.

II. (c) What new businesses will you be in? Why?

We'll be selling a variety of forms of project delivery because we'll be listening to our customers better

II. (d) What businesses will you have left? Why?

We won't have left any business, because our core business relates to human needs, which will be around for a long time.

II. (e) What new competencies will your firm need? Why?

We'll have to be better at dealing w/change, to be nimble. We'll need to know more about information technology and we'll have to be expert at project delivery and finance to completion.

II. (f) What would be the best way to acquire those competencies? Why?

Have people take multiple career paths. People must also self-develop.
Treat people well because some of them will be leaving to be clients or competitors.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Putting the right target point on the horizon and charting the right course to get there.

III. (b) Which challenges will you need to help them address, personally?

General management is lifelong learning. The Harvard AMP program helped me 5 years ago. As a result of it, I trusted my instincts better and learned not to be intimidated by lawyers and accountants. I need to understand all the facets of our business, funding and helping create the will to make projects happen. I'd like to know better what to read and what to ignore so I can ignore the half-baked.

IV. (b) What competencies will they need? Why?

Our next leaders will have to be flexible. When they get involved in a project for 6 months they become out of touch. They'll need to be able to address what inner cities need, helping cities get organized, influencing and shaping public policy. They'll need foreign language training.

IV. (c) What would be the best way they could acquire those competencies?

A good way not to acquire them would be to spend more years in school. Young engineers need to do different stuff outside of their job, to be involved in extracurricular activities, like Toastmasters and Rotary. They need to be mentored and to be mentors.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Get broad exposure. It's your responsibility to get teaming, mentoring and work assignments. You must step forward to get change if you're stuck. Maintain your values; learn to say "no" about such things as weekend commitments.

V. (a) If you had it to do over is this a good industry for a career?

Yes, but one has to be called to this industry. It's almost like the ministry. You have a chance to meet human needs and have pride and get public esteem for your ethics and integrity. I've always felt we were about making a better life.

V. (b) If you had it to do over, would you still want to be in management?

Yes. I like the people side, and solving client problems.

V. (c) When you finish as a firm leader, what would you like to do?

I'd like to try teaching at a business school, writing, and reducing my handicap.

#24. Architecture, Interiors
200 people
Midwest

I. (a) What do you see as the future of the industry? Why?

The healthcare and long-term care markets are merging and we'll have to respond to that merger.

I. (b) What do you see as the future of your firm? Why?

We're trying to decide. We're in the middle of a strategic planning process.

II. (d) What businesses will you have left? Why?

Everything will be decided in our strategic planning process.

II. (e) What new competencies will your firm need? Why?

Everything's centered around time and responsiveness. We are all still mired in a horizontal process.

III. (b) Which challenges will you need to help them address, personally?

Quality. Reinforcing our reputation as a great place to work. Mentoring transitioning partners. Reinforce the culture that brought us here.

IV. (a) What are the biggest challenges your successors will face? Why?

Enhanced competition.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Maintain your culture, build quality, and get cross-trained.

V. (a) If you had it to do over is this a good industry for a career?

Yes. It's an exciting game to be in. It requires creativity and problem solving and allows us to leverage our skills.

V. (b) If you had it to do over, would you still want to be in management?

Yes, but I'd like to have had better tools; too much of what I know about management was self-taught.

V. (c) When you finish as a firm leader, what would you like to do?

Consult to firm; be a mentor.

#25. Architecture, Engineering
600 people
Southeast

I. (a) What do you see as the future of the industry? Why?

Excellent. There are lots of facilities and infrastructure needs that have to be met. There'll be more firms, and there'll be smaller firms, some of which will be providing financing, planning, maintenance, facilities management. There may be more holding companies, like AE Com.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

The marketplace will want us to be more cost effective. Clients want value-based fees. Plans and specifications will be a commodity.

II. (b) How do you expect your firm to be different in 5 years? Why?

We'll be significantly impacted by information technology. We will have gotten over the hurdle that today it still takes as long to produce a set of drawings even with all of our technology.

II. (c) What new businesses will you be in? Why?

I'm not sure it's a new business, but we'll certainly know more about the politics of the world.

II. (e) What new competencies will your firm need? Why?

We'll know a lot more about dealing with the global economy: NAFTA, China and Russia. We'll need to have stronger understanding of financing, how to find money. We'll need to know about operations and maintenance, how to find global joint venture partners.

II. (f) What would be the best way to acquire those competencies? Why?

We'll do market research, visiting countries, talking to consultants and interviewing joint venture partners.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

All the challenges I mentioned above will face us in the next 5 years.

III. (c) What knowledge/skills/information will you need to address these issues?

How to address the leadership gaps we'll have and the need for capital.

IV. (b) What competencies will they need? Why?

They'll need MBA-level knowledge. They'll need a global mind-set. They'll have to treat management not as an extracurricular activity.

IV. (c) What would be the best way they could acquire those competencies?

They'll have to get a management degree and see the world. They'll need to be cross-trained and spend lots of time with clients learning about their clients' businesses, and they'll have to read read read.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Understand technology, learn what it can do and how it can be applied. Embrace the 7 Habits of Highly Effective People.

V. (a) If you had it to do over is this a good industry for a career?

Yes, because you can be part of building things for a better world, and you can earn a good living. There's a demand for people who understand the big picture.

V. (b) If you had it to do over, would you still want to be in management?

Yes because it required me to see the whole practice and gave me a chance to shape it as a manager.

V. (c) When you finish as a firm leader, what would you like to do?

Wherever God leads me. To make an impact on the world. To get a life. Teaching "real world 101".

#26. Engineering and Surveying
300 people
West Coast

I. (a) What do you see as the future of the industry? Why?

I'm optimistic. Our industry will learn how to creatively apply technology to how we conduct our practices and help us compete with the large management consulting firms. There will still also be smaller firms with niche services. Vendors of materials will sell through electronically to our clients, minimizing the need for engineering and therefore the need for engineers. Such vendors are also likely to offer such engineering services as our clients need.

I. (b) What do you see as the future of your firm? Why?

We'll have a strategic direction outside of construction documents into the life cycle of projects. Being involved pre and post--project is our future. We will build a consulting group like accounting firms. Our business will be not to sell a specific service, but to identify and solve problems.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

Our clients will be more informed in knowing and demanding what they want and willing to discuss the value versus its cost.

II. (b) How do you expect your firm to be different in 5 years? Why?

Our firm will have to be better at consulting and problem solving.

II. (c) What new businesses will you be in? Why?

We'll be in the information business, trading on the commercial value of information.

II. (d) What businesses will you have left? Why?

We'll have moved away from cost-driven areas, involving lots of labor. We will be playing more of a management role, as in program management.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Trying to figure out what our service mix needs to be in 5 years.

III. (c) What knowledge/skills/information will you need to address these issues?

Better understanding of the external environment. What is driving client decisions; what issues are they dealing with. Clients will tell you what they're uncomfortable about, and then we can educate them about how we can help.

IV. (a) What are the biggest challenges your successors will face? Why?

Staying focused.

IV. (b) What competencies will they need? Why?

They'll need a broad understanding of all our business

IV. (c) What would be the best way they could acquire those competencies?

They'll need developmental assignments to help them get this understanding.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Get as broad a perspective as possible. Go sideways, take a circuitous career path. It's more rewarding if you work longer; you'll enjoy the journey more.

V. (a) If you had it to do over is this a good industry for a career?

Yes, because it's a career not a job. It offers a great lifestyle and means of support. There's lots of change so there's a continuous opportunity to deal with complex issues.

V. (b) If you had it to do over, would you still want to be in management?

Yes because you get to deal with risk, make decisions, affect careers, so it's very fulfilling.

V. (c) When you finish as a firm leader, what would you like to do?

Maybe become a management consultant.

#27. Construction Management
200 people
West Coast

I. (a) What do you see as the future of the industry? Why?

It will be more like we are today, just extensions of our staff and our services.

I. (b) What do you see as the future of your firm? Why?

We'll be providing more management help, for example, like training municipal staff to function better.

II. (b) How do you expect your firm to be different in 5 years? Why?

We'll have more regional offices and we'll probably be in design build.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

How to transfer leadership and how to create challenging roles for people to grow in.

III. (c) What knowledge/skills/information will you need to address these issues?

Education on the business side.

IV. (a) What are the biggest challenges your successors will face? Why?

Earning the faith of the rest of the people in the company.

IV. (b) What competencies will they need? Why?

Listening and understanding; motivating.

IV. (c) What would be the best way they could acquire those competencies?

Classes held both inside the company and outside.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Act as if you are a leader already.

V. (a) If you had it to do over is this a good industry for a career?

Yes, it's fulfilling, you get to work with sharp people and you feel good about seeing useful things done.

V. (b) If you had it to do over, would you still want to be in management?

Yes, I get my kicks seeing people flourish.

V. (c) When you finish as a firm leader, what would you like to do?

I'd like to continue to be of counsel to the profession.

#28. Architecture, Interiors
500+ people
International

I. (a) What do you see as the future of the industry? Why?

There'll be a tremendous difference in different parts of the world. Our industry will need to be more resourceful, complex and bigger. A single mind will not be able to solve a problem. We'll be communicating electronically to the construction side of our business with more speed and fewer mistakes. There'll be much more integration, focusing on one source with the highest level of quality. Design build will be more common. Architects will have more responsibility, using more sophisticated management processes.

II. (e) What new competencies will your firm need? Why?

We'll need to be much better at teaming, as in the construction of strategic alliances.

II. (f) What would be the best way to acquire those competencies? Why?

We'll train, buy and/or rent the competencies we need. We market ourselves to key universities in order to recruit the best minds on their campuses.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Deciding where to focus our energies and resources and learning how to better use technology. We will be in more partnerships; we will be an equal partner with the owner and the contractor. Architects will have to put their money where their mouth is.

IV. (a) What are the biggest challenges your successors will face? Why?

They'll have to be outstanding as communicators and business people.

IV. (c) What would be the best way they could acquire those competencies?

To get on the advisory boards of our customers' businesses.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Spend as much time with leaders of our customers as possible to learn about their business. Get assured in your skills in dealing with people and in creativity and communication.

V. (a) If you had it to do over is this a good industry for a career?

This is a challenging industry, I wouldn't call it a "good" industry for a career.

V. (b) If you had it to do over, would you still want to be in management?

Yes, it uses my skills relative to people and strategy.

V. (c) When you finish as a firm leader, what would you like to do?

I'd like to work on changing our system from the outside, maybe to teach and be a mentor. I'll continue to be an entrepreneur.

#29. Engineering, Environmental
500 people
West Coast

I. (a) What do you see as the future of the industry? Why?

There will be lots of small, under-20 people design only firms and there'll be lots of turnkey design/build multiple service firms who are more than 200 people.

I. (b) What do you see as the future of your firm? Why?

We're going to be one of the larger firms.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

The national homebuilder market is emerging as more important than the regional market. We're getting our people serving the same client to get their client services representatives and activities together. In land surveying there's a diminishing volume because of technology changes. Engineering will go through a design/build cycle.

II. (b) How do you expect your firm to be different in 5 years? Why?

Geographic diversification will be straining our management ability.

II. (c) What new businesses will you be in? Why?

None

II. (d) What businesses will you have left? Why?

None

II. (e) What new competencies will your firm need? Why?

Our management group will need to be more participatory involving younger people taking leadership roles.

We'll need to be competent technically, to have entrepreneurial spirit, positive personality traits and better communication skills.

II. (f) What would be the best way to acquire those competencies? Why?

We'll provide training, both internally and externally.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Holding on to mid-management people and growing them.

III. (b) Which challenges will you need to help them address, personally?

That's the one I'll focus on.

III. (c) What knowledge/skills/information will you need to address these issues?

Need to know more about technology--what it can do to help with jobs that are not profitable.

IV. (a) What are the biggest challenges your successors will face? Why?

People will be wanting more free time, more separation of their work from their personal lives, flex-time, and we'll have to figure out how to make our firm attractive to people wanting these things while still maintaining a healthy company. We'll also be faced with the challenge of finding people to shoulder the burdens of ownership transition.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Surround yourself with peers and others you enjoy as people so you'd like to be their partners. Our business can't be done alone and to do so would be too lonely. Communications is key; we have a lot of responsibility so it's not a job to be taken lightly and can be very rewarding personally

V. (a) If you had it to do over is this a good industry for a career?

For me, yes. I was in the right place at the right time. Every day is a new challenge.

V. (b) If you had it to do over, would you still want to be in management?

Yes, I have found personal fulfillment in growing people.

V. (c) When you finish as a firm leader, what would you like to do?

Be an ambassador to our community and a mentor.

#30. Architecture, Interiors
1,000+ people
International

I. (a) What do you see as the future of the industry? Why?

Firms will be very large and international and they will be very small, regional and local firms who function as boutiques. Firms of the future will be leadership, management and technology intensive. They will incur high risk and thus have the potential for high rewards.

I. (b) What do you see as the future of your firm? Why?

We'll provide more one-stop shopping. We'll deal with strategy, we'll partner with clients and provide program management. We'll help our clients deal with human ecology systems.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

It'll be difficult to chase individual projects. Large design firms will team with our clients. There'll be fewer RFP's except for the largest projects. Airports will be awarded to master design firms.

II. (b) How do you expect your firm to be different in 5 years? Why?

We'll have broader skill sets in technology, strategic planning, program management and business. We'll still be architects; we'll be using our skills to provide organizational leadership to large, complex teams. We will have better social skills. We'll be helping clients take advantage of how they use their space to improve their businesses and we'll be pricing those services differently.

II. (d) What businesses will you have left? Why?

We'll mostly be out of commodity businesses, like working drawings, except to the extent that we use them as training ground for new people.

II. (f) What would be the best way to acquire those competencies? Why?

Strategic alliances and classroom learning to acquire those skills that none of us have and thus can't offer in on-the-job training.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Human resources, finding qualified people. Technology. How to use video conferencing. Finding skilled designers who are well rounded.

III. (b) Which challenges will you need to help them address, personally?

The human resources challenge.

III. (d) What would be the best way for you to acquire them? Why?

Reading.

IV. (a) What are the biggest challenges your successors will face? Why?

The change from an entrepreneurial organization to the successors. There'll be lots of international travel so they will meet lots of people and networking will be easier. But they'll also have to figure out how to keep us as a one-firm firm.

IV. (c) What would be the best way they could acquire those competencies?

Spending time with me and practicing them.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Hire people smarter than you; understand your community; get involved. Understand what your clients' businesses need. Understand and have an impact on public policy.

V. (a) If you had it to do over is this a good industry for a career?

Yes, because we have a tremendous impact on people's lives and there's very little repetition in this industry.

V. (c) When you finish as a firm leader, what would you like to do?

Guest teaching, consultant, serve on boards, write and lecture.

#31. Architecture, Engineering, Planning
80 people
Southeast

I. (a) What do you see as the future of the industry? Why?

We're in the asset creation and management business. I don't mean to denigrate design, but we need to change our attitude about what business we're in. In 10 years, another cycle will have happened. It won't be as painful as the last one, but there will have been shrinkage, consolidation; we'll be working at a faster pace. There'll be more mega-firms doing lots of things including design/build and simply larger firms whose marketing and financial economics allow there to be local competition. Therefore, competition will be local and small, or big and national or international, and the big firms will want all the work. There will be more radical change in the AIA documents and more firms will wind up providing more services. The large accounting and consulting firms will not be serious competition because they'll have gotten beyond their knowledge base. What will be needed in our industry are change management knowledge and functions pertaining to real estate. We will be more client focused.

I. (b) What do you see as the future of your firm? Why?

We will get bigger and stabilize the sources of our revenue through account relationships, we'll provide services that provide greater benefits to our clients and therefore allow us to earn improved margins. We'll be a truly regional firm, although it's unclear whether we'll be independent or not.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

There are lots of small markets and they're always changing and evolving but generally I believe that we'll see more design/build, that large clients will want to simplify their lives, reduce management-time in overhead related to infrastructure. We'll see more influence of the public sector on the private, and the public sector will be competing for investment monies for economic development through public and private partnerships. We'll see government as a player in the use of tax dollars, for example, the new stadiums proposed for New York City. Anyone will be able to do business globally, and American companies' focus on the bottom line will keep us in demand. In 5 years we probably still won't be providing financing. I hope we will have done something about our educational process, which does us a great disservice; that is, it causes us to be loyal to an art versus being loyal to our clients, and success resides in our ability to do the latter.

II. (b) How do you expect your firm to be different in 5 years? Why?

We'll have more services and we'll be bigger.

II. (e) What new competencies will your firm need? Why?

We'll be customer-focused, willing to be entrepreneurial. We'll have more people with an attitude of providing service to our clients in meeting our needs. We'll be hiring for attitude and training for skills. We'll be looking for people who can discern and sustain a big picture view. Information technology competencies will be critical, as will management skills. Design will still be important as in industrial design where process is applied to solving clients' problems.

II. (f) What would be the best way to acquire those competencies? Why?

We'll hire and we'll train.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

The economics of practice. We'll need to invest more in profits, equity, training, and technology and have better cash flow to reward people so we can treat our people better. We'll be challenged by our ability to recruit and retain people, and to provide career development and training. We'll need to find ways to treat people better than as commodities, so we'll focus on the challenge of creating enhanced job satisfaction. We'll have to figure out how to get ego out of its dominant position, both internally and with our clients.

III. (b) Which challenges will you need to help them address, personally?

Money and people.

III. (c) What knowledge/skills/information will you need to address these issues?

How to figure out what my job and role are. Once I know this, it'll be clearer what management skills I need. I certainly need to be more accessible and available to my colleagues.

III. (d) What would be the best way for you to acquire them? Why?

To hang out with smarter people.

IV. (a) What are the biggest challenges your successors will face? Why?

To get prepared to be leaders.

IV. (c) What would be the best way they could acquire those competencies?

Finding opportunities to exercise judgment, practice new skills and be held accountable. To have access to formal training, role models, including exposure to other leaders. Increasingly complex experiences to season them so they become confident. Current senior managers must repeat the messages about what's important.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Say and live out the premise that integrity is everything. Leadership is impossible without an attitude of generosity; be respectful, encouraging, and practice a belief in the spirit of abundance. You must have a vision about what you want to do, and how it aligns with the organization. Envision and communicate where you want to be next.

V. (a) If you had it to do over is this a good industry for a career?

Yes, it's challenging to the intellect and there are good, tangible rewards. It provides a vehicle for meaningful activity in society. One caveat is to create the expectation that we're enablers, we're not creators, and therefore people entering this field must expect a lot of drudgery.

V. (b) If you had it to do over, would you still want to be in management?

Yes, I'm in a rut.

V. (c) When you finish as a firm leader, what would you like to do?

Travel with my wife, watch the chickens.

#32. Architecture, Interiors
300 people
International

I. (a) What do you see as the future of the industry? Why?

Our industry is responsible for shaping physical environments and experiences related thereto. In the future I expect we'll see more segmentation of our industry because there'll be more complex clients and global situations. Small firms will be technology driven, and individual practitioners will be able to do more, although they will have to ally with others to go global. We will be more like our competitors, Fluor, Daniel, Bechtel, and the real estate companies.

I. (b) What do you see as the future of your firm? Why?

We will be more of a global player, we'll have more of a global attitude. we may not be American based. We will have developed expanded capabilities through mergers and /or alliances. We'll be providing turnkey project operations that are highly customized.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

The US will have a downturn and Asia will come back. These markets are counter cyclical. The leisure time market will continue to expand as baby boomers are a significant driving force.

II. (b) How do you expect your firm to be different in 5 years? Why?

We'll continue to make a great investment in technology. There will be more young architects available in response to the shortage of labor today we we'll have a newly educated staff. Those people educated in CADD will be the leaders. Wisdom and technology will be mated; they are now inefficient.

II. (c) What new businesses will you be in? Why?

We will have expanded our creative abilities with technology.

II. (d) What businesses will you have left? Why?

We'll have outsourced construction documents.

II. (e) What new competencies will your firm need? Why?

The development process, our clients businesses, and technology. We will buy some competencies, and create alliances to get others.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

All of the above.

III. (b) Which challenges will you need to help them address, personally?

Creating and implementing steps to achieve the vision of being global. Serving global clients with a local presence. Also, helping to acquire the people we need. More leadership skills so I can develop my colleagues as leaders.

IV. (a) What are the biggest challenges your successors will face? Why?

To see their place in all of this, this dynamic practice, making sense, embracing the new.

IV. (b) What competencies will they need? Why?

The capacity to explore and to deal effectively with technology.

IV. (d) What are the best words of advice you'd give to future firm leaders?

This is still a people, one-on-one business. Gain respect and confidence. keep your vision high. Learn how to both "be" and "do".

V. (a) If you had it to do over is this a good industry for a career?

Sure. More challenging niches present themselves everyday, but this is not a good industry for financial remuneration.

V. (b) If you had it to do over, would you still want to be in management?

Yes, I like the challenges. I like to see things more forward and be part of shaping them.

V. (c) When you finish as a firm leader, what would you like to do?

To be a mentor. To focus outside the firm.

#33. Architecture, Engineering, Interiors
1,000+ people
International

I. (a) What do you see as the future of the industry? Why?

We're in the real estate design and construction industry. We're also in consulting, operations, maintenance and facilities management. In other words, we're involved with infrastructure beginning to end as an industry.

I. (b) What do you see as the future of your firm? Why?

Consolidation. Compaction. How quickly things get done. We'll have more impact on public policy and regulation.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

Strong commercial market places in the US vs. Asia. Markets will continue to evolve. Once developers and then tenants were "kings". Now the education and transportation marketplaces are prime.

II. (b) How do you expect your firm to be different in 5 years? Why?

Since the late 1980s we've re-thought ourselves. As a result, we have a more direct relationship to clients in our markets. We are both an agent and a partner. We have different packets of services for different types of clients. We offer pure consulting services when there isn't even a building involved.

II. (c) What new competencies will your firm need? Why?

Financial abilities. The ability to find capital. To be interlocutor between the client and the money they need. Project management. How to get things done so we deliver our services and products in a better way. We'll be faster.

II. (f) What would be the best way to acquire those competencies? Why?

Some of our people have these competencies already but for many we'll have to be able to go find them outside the firm.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Continuing education, how to integrate next generation technology, and how to reprogram architectural school graduates.

III. (c) What knowledge/skills/information will you need to address these issues?

More knowledge of the client's side.

III. (d) What would be the best way for you to acquire them? Why?

Reading and spending time with clients.

IV. (a) What are the biggest challenges your successors will face? Why?

How to deal effectively with the people side of our business in such areas as continuing education. Managing people who believe that their life is not their company. Dealing with the stress of competition and the need for increased productivity. Individuals will need to be stronger.

IV. (b) What competencies will they need? Why?

Technology. How to deliver our product better.

IV. (c) What would be the best way they could acquire those competencies?

Not through the universities. Not even if they're reorganized.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Be as close to your client as possible. Improve the quality of lives of those who use your buildings. Create sustainable solutions. Be a part of your community. Evidence integrity. Create value for those who have a stake in what you do.

V. (a) If you had it to do over is this a good industry for a career?

Yes, because it's so entrepreneurial. There's just less structure in this industry.

V. (b) If you had it to do over, would you still want to be in management?

Yes, I know where my skills lie.

V. (c) When you finish as a firm leader, what would you like to do?

Community work. Reading, writing and travel.

#34. Mechanical, Electrical Engineering
200 people
Midwest

I. (a) What do you see as the future of the industry? Why?

We'll always have a major role helping people meet the infrastructure requirements that their people need.

I. (b) What do you see as the future of your firm? Why?

We'll have diversified and have a national presence.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

The marketplace will be more sophisticated and demanding, and time will be even more critical, so I expect there'll be more one-stop shopping.

II. (b) How do you expect your firm to be different in 5 years? Why?

We'll adapt and conform to what I said above.

II. (c) What new businesses will you be in? Why?

We won't be in any new businesses, but we'll have formed strategic partnerships.

II. (d) What businesses will you have left? Why?

None

II. (e) What new competencies will your firm need? Why?

We'll be sharper in all we do, especially in communications, computers and our technical knowledge.

II. (f) What would be the best way to acquire those competencies? Why?

We both have to grow our firm from within, and recruit the best and the brightest.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Staffing. There's a shortage of superstars. We need to figure out how to sell them and give them continuous progress once they're with us.

IV. (a) What are the biggest challenges your successors will face? Why?

Finding time to think about what they will need to know. A financial awareness that goes beyond backlog and cash.

IV. (c) What would be the best way they could acquire those competencies?

Use the networks.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Don't limit yourself. Get a broad understanding of the economy. Stay tuned to the big picture. Become well read and rounded.

V. (a) If you had it to do over is this a good industry for a career?

Yes. There's a great challenge, and it provides growth and opportunity. It's a chance for a small company to be an impact player. In this industry you do something that makes a difference.

V. (b) If you had it to do over, would you still want to be in management?

Yes, I like the people side. I'm better at communications and throwing out ideas.

V. (c) When you finish as a firm leader, what would you like to do?

Charity work. Get more women into the field.

#35. Architecture, Interiors
150 people
West Coast

I. (a) What do you see as the future of the industry? Why?

Mid-size firms will form alliances as experts. The generalists will be large and small firms. Clients will want one source locally, not nationally. They want ideas quickly, without bother. More of our industry's creativity, which releases energy, will be expressed in the workplace. Firms will come together to harness their creativity; there'll be centralized mechanisms offering opportunities for development.

I. (b) What do you see as the future of your firm? Why?

Our firm could be like this.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

More speed will be wanted. Clients will seek a rapid response requiring very specific knowledge. Clients will want to participate in the process of figuring out what impact space has on their people and what the effect of change is. We will have a continued booming marketplace without a recession.

II. (b) How do you expect your firm to be different in 5 years? Why?

We will be more fragmented, more design-oriented and younger.

II. (d) What businesses will you have left? Why?

We'll be doing less working drawings; the client and the contractor will do more.

II. (e) What new competencies will your firm need? Why?

We will understand more about people, the creative process and business.

II. (f) What would be the best way to acquire those competencies? Why?

We will acquire new people.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Breaking down the barriers between other professionals and our communities. to create opportunities in the architectural profession to connect outside.

III. (c) What knowledge/skills/information will you need to address these issues?

Greater self-knowledge and the ability to help others play.

III. (d) What would be the best way for you to acquire them? Why?

Reading, seminars, opportunities to learn from one-on-one contacts in the profession.

IV. (a) What are the biggest challenges your successors will face? Why?

Getting hands-on experience to augment their brainpower. There isn't enough time.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Don't be afraid to make mistakes. What you will do will be vastly different. Your generation must be willing to take action and be willing to be accountable.

V. (a) If you had it to do over is this a good industry for a career?

No, if I had to enter it now. This is too much of a "buggy" whip industry.

V. (b) If you had it to do over, would you still want to be in management?

If I had it to do over, no.

V. (c) When you finish as a firm leader, what would you like to do?

In order to "finish", I must find a person who wants to take the firm to the next level and then I'll be able to spend time afterwards mentoring. I want to be involved in the community. I'd like to teach.

#36. Landscape Architecture, Engineering
200 people
International

I. (a) What do you see as the future of the industry? Why?

We have a good future because our business is to build and rebuild communities and everything in them. Large firms will be everywhere, taking advantage of production with labor from low-cost areas. We'll have a lot more single individuals tied to a larger network. We'll be larger, more geographically dispersed. We'll also lose some control and autonomy. We may not be moving people to where the work is. Now, clients want them present and in the future we'll have to figure out different ways to help clients do the local approvals process.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

In the leisure time industry, mega resorts are a thing of the past. In the future resorts will need to be in tune with local culture. Ecotourism trends are pushing hotel owners to do this. In education, libraries are going away. In hospitals, administrators and healthcare professionals are seeing the healing power of gardens. In the military they are much more sensitive to the environment. In general, public awareness won't let environmentally damaging things happen.

II. (b) How do you expect your firm to be different in 5 years? Why?

We'll be wider dispersed geographically with offices in more places. We may be merged because we don't have the resources to go it alone. I hope we've been able to hang in in Asia. We'll be working with itinerant senior people who may have partially retired but work for us on a contract basis.

II. (c) What new businesses will you be in? Why?

I don't know.

II. (d) What businesses will you have left? Why?

Don't know.

II. (e) What new competencies will your firm need? Why?

Project management involving multi disciplines. Construction management. Hard science in such fields as archaeology and anthropology. Business.

II. (f) What would be the best way to acquire those competencies? Why?

We encourage people to go back to school with the firm paying for their education as a loan, which we then forgive after 2 or 3 years. We also hire the new competencies we need.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Human resources regulation relative to sex and disability makes it difficult to express our wish for closer relationships in the workplace.

III. (b) Which challenges will you need to help them address, personally?

To improve my role as the "glue", able to deal with conflict and to improve the professional quality of our work.

III. (c) What knowledge/skills/information will you need to address these issues?

To understand where other people are coming from, where they want to go and to help us all know what the firm needs to be about.

III. (d) What would be the best way for you to acquire them? Why?

Reading.

IV. (a) What are the biggest challenges your successors will face? Why?

Keeping it all together, mastering marketplace challenge, being nimble enough.

IV. (b) What competencies will they need? Why?

Flexibility.

IV. (c) What would be the best way they could acquire those competencies?

Become involved early in leadership positions. The firm's older generation must tell stories of what it was like when they were on the path.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Continue to learn, both formally and through on-the-job training.

V. (a) If you had it to do over is this a good industry for a career?

Yes, we have wonderfully creative people, exciting work and can make a good living.

V. (b) If you had it to do over, would you still want to be in management?

Yes, it's been a great challenge and it would have been harder to grow as a designer.

V. (c) When you finish as a firm leader, what would you like to do?

Teaching.

#37. Engineering, Environmental
2,000+ people
International

I. (a) What do you see as the future of the industry? Why?

Our industry is defined by our clients, who will continue to want us to be, in many cases, turnkey providers of their facilities. Long-term we'll still be serving the environmental, water and transportation industries and I expect our services will change. There will certainly be a lot fewer consulting firms. Success will be more defined through our services. We will be better consultants and some in the industry will have learned to neutralize the tremendous risks our industry possesses. Some firms will have embraced diversity and/or consolidation to manage their risk.

I. (b) What do you see as the future of your firm? Why?

Our firm will be bigger and global and get a large share of our revenue and profits through privatization and outsourcing. Technology will permit us to do engineering differently; human input will be minimized.

II. (a) What marketplace changes do you anticipate in 5 years? Why?

Clients will be looking for more single-source responsibility, including finance.

II. (b) How do you expect your firm to be different in 5 years? Why?

We'll look like the firm I described in I. (b) above.

II. (c) What new competencies will your firm need? Why?

Our biggest challenge in the next 5 years is changing the 100-year mindset of the design profession. That is, that the world is not going to revolve around them. This industry is not going to make money off design; design offers the lowest margins. We'll need to be good at operating our firm as a business, at a range of personnel issues including outsourcing, using temporaries and agencies for technical professionals. We'll have to figure out how to maximize return on our investment and get design to be more efficient. We'll have to figure out how to construct things so they operate efficiently with the understanding that financial results are the basis for decisions that we make.

II. (f) What would be the best way to acquire those competencies? Why?

We will have to retrain some of our core staff.

III. (a) What are the most significant challenges your firm faces in the next 5 years? Why?

Running our business better.

III. (b) Which challenges will you need to help them address, personally?

Globalization of the business, dealing with different cultures. Diversity of the business as a result of acquisitions. Spending time with our clients. Turning our business around in terms of its structure so we offer high quality service at competitive prices. Implementing huge cultural changes as a result of acquiring different kinds of staff, and placing a heavy emphasis on business.

III. (c) What knowledge/skills/information will you need to address these issues?

To do a better job of hiring people and buying firms able to cope with the high-risk side of our business. How to deliver things to a client at the same quality for lesser price. How to change the mindset of technical professionals so they are more competent at management and business.

IV. (a) What are the biggest challenges your successors will face? Why?

The baby boom generation has sacrificed life quality for business pursuits. The next generation won't. And our company must still run leaner and meaner.

IV. (d) What are the best words of advice you'd give to future firm leaders?

Combine technical talent with business sense and marketing. To be a leader you need both.

V. (a) If you had it to do over is this a good industry for a career?

No. it's too hard, it's a struggle. The industry's in transition and nobody knows the outcome. We have a surplus of firms who are going through a period of consolidation.

V. (b) If you had it to do over, would you still want to be in management?

I wound up in management and leadership in a de-facto way and I would do it again.

V. (c) When you finish as a firm leader, what would you like to do?

I'll write a book, help other companies, get involved on corporate boards.

PSMA
Survey of Professional Development in Design Firms

Tabulation of Responses to Written Survey

Executive Summary

... Forty-six firms participated:

- 20 Engineering
- 13 A/E or E/A
- 9 Architecture
- 4 Other

... Median size firm is 102 staff

...Median number of offices is four

... On being a "Learning Organization":

- 28 say their firms "always" or "often" learn from experience and don't repeat mistakes
- only 14 "use a process to help new project teams learn from the experiences of other teams"
- only 16 "retain the knowledge of people who leave the firm"
- only 11 "distill and document learning when a team completes a task"

... Business knowledge, strategic thinking, communications and client/marketing focus are most critical for future leaders' success

... 24 firms are ready to invest at least \$1,000 per year (out of pocket, not time) to develop a future leader

... Live, in-person instructors are the overwhelmingly preferred leadership development source

... AMI, PSMJ, PSMA, Zweig White and AIA are the industry's top educational providers

... Project Management is the top firm-wide training priority

... Financial Management, Leadership, Communications and Strategic Planning are the top courses needed by principals and partners