STRATEGIC MANAGEMENT IN DESIGN FIRMS

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Abstract: The traditional philosophy of management in the architecture-engineering-construction (AEC) industry, both in academia and in industry, places great emphasis on the ability to plan and execute projects. In contrast, a similar emphasis on strategic management has received less attention in the AEC industry. Although the pressures of project performance can often obscure the broader social, economic, and professional context in which strategic management is undertaken, it is these broad contextual areas that make strategic management an essential issue for AEC organizations. Rapidly changing social and technological issues are creating a professional environment that will look very different in the coming decades than that experienced in today’s organizations. This paper introduces a study of the current strategic management practices of design-based firms. The paper introduces the concept of strategic management and the areas that organizations must address to compete in the global marketplace. A summary of an industry survey is documented together with the background research that prompted the investigation of these topics.

KEYWORDS
Design firms, management, strategic planning, education, strategy, organizations, professional development

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INTRODUCTION

The conflict in engineering management between project concerns and organization concerns is exemplified within the architecture-engineering-construction (AEC) industry. The daily demands of project budgets and schedules often overrides the concerns of long-term organization success. In contrast to the manufacturing industry where mass production of a single item allows for economies of scale and learning-curve optimization, the design of a single entity, a “project”, within the AEC industry has been viewed as a unique endeavor with significantly reduced opportunities for similar gains. Subsequently, the ability to control costs and schedules on individual projects has been highly developed and prized within AEC organizations (Chinowsky 2000). However, due to this extensive emphasis on project management requirements, significantly less attention is given to the unique requirements of strategic management. Specifically, existing literature and research reports offer far fewer insights into the practices and requirements for strategic management within AEC organizations (Goodman 1998). In response to this issue, the current research effort was undertaken to examine strategic management practices in the AEC industry and identify strategic areas requiring greater attention by the industry.

This paper introduces the findings from a primary component of this study, the characterization of strategic management practices in engineering design firms. The paper introduces the need for this emphasis, the focus group selected for the survey, the data tabulations, and the analysis of the data collected. Finally, the paper addresses the need for action within the industry to achieve a greater level of effectiveness in the area of strategic management.
WHAT IS STRATEGIC MANAGEMENT

The history of strategy and strategic management covers a broad timeline from ancient Greece to the 21st century. Organizations, practitioners, and researchers from every sector of the professional world have focused on strategy as a primary topic at some point (Chinowsky 2000). In contrast to mathematics, physics, or material science, strategy does not contain universal truths that can be documented through scientific theorems and proofs. However, as illustrated through the extensive history of strategic management, scientific and management advancements have been integrally related to the field for centuries. From this development, strategic management encompasses principles from a combination of quantitative and qualitative fields. On the quantitative side, management and industrial sciences have formalized the domains of operations, logistics, and finance. Complementing this quantitative rigor are the human dimensions of psychology, sociology, and human resource management. In combination, these quantitative and qualitative elements address diverse organization needs including professional, technical, and strategic demands.

The combination of these diverse elements is required to assist organization managers in directing the organization to successful long-term existence and growth. Specifically, the diverse focal points of strategic management combine to create an environment that fosters strategic thinking and focus. Strategic management models have been evolving in the business domain on a continuous basis since the late 19th century (“Harvard” 1997; Davis 1987; Porter 1980; Drucker 1988). Combining input from these models with the results of interviews conducted by the authors with civil engineering executives, the current study proposes that strategic management in the context of the AEC industry comprises the following seven areas:
• Vision, Mission, and Goals – The starting point for all organization endeavors; establishing a vision provides each member with a direction to follow in all business practices.

• Core Competencies – The business boundaries for an organization; core competencies establish what an organization does best and where its strength resides.

• Knowledge Resources – The combination of human and technology resources that provide the backbone for completing organization projects.

• Education – A focus on the informal and formal requirements for lifelong learning and understanding of evolving business conditions.

• Finance – A broad focus on monetary concerns beyond the project-to-project concerns of budget and schedule control.

• Markets – The analysis of expanded business opportunities within domains that are related to core competencies.

• Competition – A focused analysis and understanding of existing, emerging, and future competitors in both existing and potential market segments.

Rather than viewing these elements as components of a linear process, these components are part of a continuous strategic management process that returns to the beginning at regular intervals to ensure retention of a constant focus on the core purpose of existence. Underlying this entire structure is the understanding that the purpose of these focal points is to provide the environment that allows organizations to formulate strategic concepts.
THE CURRENT STUDY

The development of a survey to obtain data from engineering design organizations on strategic management processes is an extension of a larger study overseen by the author. In the larger effort, an attempt is being made to identify the areas of strategic concern for AEC organizations and to develop an appropriate strategic management process for these organizations to implement and measure. In response to the first component, a three-year study was conducted to determine what topics were identified by researchers and executives as the key strategic elements for the AEC industry. In this process, a content analysis methodology was employed on 574 papers from management and engineering journals to initially identify topics of common concern (Goodman 1998). Concurrently, over 50 personal interviews were conducted with AEC executives (vice-president level and above) to correlate the research data with actual experiences (Chinowsky 1999a). Combining the input from these studies provided the basis for the seven strategic management areas identified in the previous section.

The identification of the strategic management concerns provided a basis on which to formally survey a segment of the industry. An initial survey effort was completed with the 1998 ENR Top 400 Contractors that provided both a baseline for the current effort and an initial insight into AEC strategic management practices (Chinowsky and Meredith 2000). Based on the successful implementation of the construction effort, the current focus was initiated on the corresponding design firms listed in the 1998 ENR Top 500 Design Firms (ENR 1998). Similar to the construction firms, this population was selected for two reasons; 1) it is an accepted measurement and list within the design industry, and 2) the organizations within the list span a significant revenue span that, it was hypothesized, should be reflected in varied management
practices. The specific individuals within the organizations that were identified for the survey were executive-level individuals who were responsible for organization-level concerns.

Once the topics and organizations were identified, the survey illustrated in Appendix A was mailed to the 500 organizations. It should be noted at this point that the intent of this survey is not to characterize the strategic management practices in the design industry as a whole. A second survey effort addressing management practices of smaller organizations will follow shortly to obtain a broader industry perspective. However, the current study provides a perspective on the strategic management practices in the top organizations as ranked by revenue.

Response Rate

The response rate for the 500 questionnaires was 29% (145 responses). This exceeded the research goal of 25% set by the research team, thus allowing the team to develop statistical inferences from the data. A summary of the responses and percentages is provided in Appendix A. The respondents answering the survey all satisfied the criterion of holding an executive position with organization management responsibilities. The respondents had an average length of tenure with their current organizations of 23.4 years and an average length of time as an executive of 20.7 years.

To facilitate the analysis of the survey data, the 500 organizations were divided into five quintiles of 100 organizations each. This division provided the opportunity to group organizations with similar revenue streams into a single category. Once these groupings were created, the five groups could be analyzed to determine if the size of the organization has
statistical significance in terms of differences in survey response. Table 1 illustrates the survey groups established for this study and the corresponding response rates obtained in each category.

THE SURVEY RESULTS

To present the analysis of the survey results, the analysis is divided into three overall categories, general perspectives, internal issues, and external issues. In each of these categories, the following discussions present a description of the category, the data obtained from the survey, and a summary of the statistical significance derived from the survey data.

General Perspectives

The first category of interest for the survey effort was an initial query concerning each organization’s practices in long-term planning. As illustrated in Appendix A, Question G asked the respondents what long-term planning period is used in the organization. The result of this question indicated a population trend for an advanced planning window of 3-4 years. As further illustrated by the standard deviation in Figure 1, the respondents reported planning periods with a range from slightly over 2-3 years to slightly under 3-4 years. Finally, as illustrated in Table 2, a statistical analysis of the data indicates that no statistical difference exists between the five quintiles in response to this question.

The Strategic Planning question (question H) built upon the Advanced Planning question by asking the respondents to provide an indication of how strategic planning has been integrated into the organization. As illustrated in Appendix A, this is the first question to introduce the 1-7 answer scale employed in the survey. This scale provides a series of discrete implementation
stages for respondents to indicate the current status of their organization’s strategic management efforts. Starting at a value of 1 that indicates the organization is not aware of the concept, to a value of 7 that indicates full implementation and measurement of a concept, the seven values provide the opportunity for an organization to respond with their current status in terms of a specific strategic management concept. Rather than focusing on the amount of resources committed to the area, the focus of the scale is on the degree of implementation. From this perspective, the Strategic Planning question asks the respondents to indicate the status of overall strategic planning in the organization.

As illustrated in Table 2, the results of this query indicate an industry average for the question of 5.34. This number reflects the perspective that management is predominantly in the initial or preliminary stages of implementing strategic planning within design firms. As further documented in Table 2, no statistical difference exists in the responses between the five quintiles. Therefore, as will be seen repeatedly throughout the following sections, the size of the organization has little impact on the state of strategic management practices within the organization.

Internal Issues

The second category of interest in the strategic management survey is internal issues. In approaching the strategic management process, a fundamental division can be made between issues that are internal to an individual organization and issues that force a response to external forces. Questions I-N each focus on internal issues that emphasize the approach an organization takes to support the development of resources and long-term plans. The first of these questions,
Vision Statement (question I), asked the respondents to indicate whether or not the organization had a vision statement. This question, together with the Mission Statement and Objectives questions (questions J and K), emphasizes the organization’s focus on developing a long-term roadmap for the organization development. The vision component of this roadmap establishes the ultimate goal for the organization to achieve. As indicated in Appendix A, 76% of the total respondents indicated that their organizations have a vision statement. Of interest in this response is the fact that the size of the organization had no statistical impact on the respondents (Table 2). Specifically, although the respondents increase from a low of 61% of the organizations having a vision statement in Group 5, to a high of 81% in Group 1 (Figure 2), the overall result of this question is that engineering design firms have a strong focus on long-term success and are putting in place visions to achieve this success.

Complementing the results generated from the Vision question are the results generated from the Mission question. In this second internal question, the respondents are asked to indicate the existence of a mission statement within the organization. The focus of this question is to determine if the organization has determined how they are going to achieve the stated vision. As indicated in Table 2, the response to this question once again produced uniformity across the five quintiles. Across the sample, 80% of the respondents indicated the existence of a mission statement (Appendix A). Finally, the Objectives question completed the group of three questions relating to establishing long-term goals and direction. In this question, the respondents were asked if they had established specific goals that would assist the organization reach their strategic objectives. Once again, a strong focus on achieving the vision and mission was established as 90% of the respondents indicated the establishment of short-term objectives (Appendix A).
The second focus of the internal issues component of the survey focused on the incorporation of the core competencies concept into the organization. The focus of the Core Competencies question (question L) was on the emphasis that organizations are giving to their internal strengths and the use of these strengths as building blocks for market development. As indicated in Table 2, size was not a factor in the responses given. The overall average for the question was 4.3, indicating that a plan to focus the organization on core competencies has been developed, but is in a very early implementation stage. An interesting note in the response rate for this question is the dispersion in the answers as indicated by the standard deviation (Figure 1). With an average standard deviation of almost 1.9, the core competencies question is the first of several in the survey that indicate wide variability in respondent surveys. In the case of core competencies, although the average was 4.3, it was just as likely for an organization to respond with a 2 or a 6.

The third internal focus emphasized a move toward new technologies as a tool to facilitate knowledge exchange between organization employees. Rather than focusing on computer tools that facilitate the completion of existing tasks such as scheduling and estimating, the Knowledge Resources question (question M) queried the respondents on their focus on the future. Specifically, the Knowledge Resources question emphasized the use of the Internet as a tool to facilitate organization employees working together through the exchange of knowledge. As indicated in Table 2, the response to this question demonstrated the greatest strategic emphasis by the respondents. In contrast to the 4.3 average for Core Competencies, the average for Knowledge Resources was 5.8, the highest in the survey. This average indicates that the use
of the Internet is rapidly entering into the strategic plans of design firms, with the average organization currently focusing on the implementation of a strategic technology plan.

The final focus on internal strategic issues was reflected by the Lifelong Learning question (question N). In this question, the organization focus on long-term education was analyzed by asking the respondents about the focus on procedures to support lifelong learning. The emphasis of this question was to focus the respondents on the move to organization learning, or the need for all individuals in the organization to continue their education throughout their careers. Although most of the respondents indicated some level of education was taking place in the organization, the Lifelong Learning question revealed a strong aversion to expending organization resources on lifelong learning. As indicated in Tables 2, the average response to this question was 4.0, and once again, statistical significance to organization size was not found to be evident. However, a high dispersion in response was once again detected as organizations were found to be in the opposite direction as that taken toward technology integration. Whereas technology integration was found to be in the implementation stage, lifelong learning is predominantly in the conceptual stage of development.

External Issues

The final category of interest in the strategic management survey was the focus on external issues by design firms. In contrast to internal issues such as organization learning that can be addressed exclusively within the confines of the organization, external issues address factors that are industry-based rather than organization-based. Specifically, Questions O-Q
The first external issue of concern was the response by organizations to the economic swings that occur in the AEC industry. The Strategic Finance question (question O) asked the respondents to indicate the organization status in developing a long-term response to economic variability by putting in place procedures to forecast and anticipate economic changes. As indicated in Table 2, the average response to this question was a 4.0. Of potentially greater importance is the dispersion of the answers to this question. With an overall standard deviation of 2.0 and individual dispersion numbers ranging from 1.5 to 2.2, the Strategic Finance question received the greatest variability in answers in the study. This dispersion indicates that some organizations are actively implementing strategic financial plans while other organizations are choosing to follow the twists and turns of the marketplace.

The second issue of concern for organizations from external forces is the impact of new market opportunities on existing business practices. The central emphasis in this area is the identification of new market opportunities as a basis for expanding current market segments. This emphasis is important for organizations that are attempting to develop strategic plans that consider the expansion of market segments as a key component in increasing profits and reducing the pressure from existing competitors. The Markets question (question P) addressed this issue by asking respondents to indicate their organization’s status in proactively identifying new and expanded market opportunities. Similar to the focus on technology, design firms are making considerable progress in this area of strategic management. The average score for the
respondents in this category was a 5.0 with little dispersion evident in the groups (Table 2 and Figure 3). These responses indicate that the pursuit and analysis of new markets is receiving implementation-level attention with many organizations developing evaluation measures for their market entry efforts.

The final issue of concern for external issues, protecting against competitors, also serves as the final area of focus for the strategic management survey. The proliferation of new competitors entering the AEC arena is creating competition from areas such as management consultants, which were rarely considered threats only a decade ago. However, the long-term outlook for this competition indicates continued growth from these new competitors, and therefore, a need for existing organizations to protect existing market share. In response to this issue, the Competition question (question Q) asked respondents to indicate organization efforts to position against new competitors. As indicated in Table 2, the response to this question demonstrated a slightly lower implementation stage than that identified for the Markets question, with an average of 4.7 versus 5.0 for the previous question. Although this difference is slight, it does indicate a greater awareness by organizations of the need to enter new markets, but a potential reluctance to identify the key competitors within these markets.

ANALYSIS

The results of the strategic management survey provide a basis for analysis in the following areas; 1) strategic areas that design firms are addressing in a positive manner, 2) strategic areas that design firms need to address with greater emphasis, and 3) the impact of size on strategic management practices within these firms.
Positive Strategic Management Areas

The strategic management survey provides positive indications in two areas, knowledge resources and market awareness. In terms of knowledge resources, organizations in each of the quintiles indicate that the integration of technology to support knowledge transfer between members is an area that is receiving significant attention. With 69% of the respondents indicating that technology integration is either in the full implementation or measurement stage, the integration of knowledge resources moves to the forefront of strategic issue awareness. This action-oriented approach to knowledge resources is imperative when the impact of the latest information technology revolution is considered. As discussed at the beginning of this paper, the new wave of information technology capabilities is transforming the manner in which construction organizations will conduct business in the 21st Century. The Internet and virtual office environments will become an accepted fact for future project environments (Chinowsky 1999b). Responding to these changes by implementing knowledge resource integration ahead of the competition provides the opportunity to evaluate the impact of knowledge resources and implement a strategy that has the best potential to result in a positive outcome.

Similar to the positive focus on knowledge resources, the survey respondents demonstrate an awareness of the need for market expansion. With 49% of the respondents indicating that market opportunity identification was in a full implementation or measurement stage, this question reflects the strong competition that exists in the AEC industry. Understanding that a continued focus on a narrow market creates a scenario where the organization becomes vulnerable to market shifts, AEC organizations are increasingly focusing on the need to identify
and enter new market segments. As indicated by the lack of statistical significance attributed to organization size, this market focus is understood by organizations at every level. However, this result should not be extrapolated to infer that all organizations are entering appropriate markets. The survey did not inquire as to the types of markets that organizations were investigating. Rather, the analysis can state that design firms are aware of the need to strategically position themselves in new markets to respond to market shifts, and actions are being taken to establish these new positions.

Areas for Greater Emphasis

In contrast to the positive results obtained in the strategic management survey for the knowledge resource and market areas, the responses in two areas, lifelong learning and strategic finance, indicate a need for greater strategic emphasis. The first of these areas, lifelong learning, demonstrates the broadest need for greater strategic emphasis. Although it was unanimous among all respondents that some type of education was taking place in the organization, the majority of firms do not incorporate the concept of lifelong learning. With 31% of the respondents indicating that the concept is unfamiliar or no plan of action is in development, lifelong learning received a consistently low focus from the respondents. In contrast to the authors’ assumptions prior to the study, the size of the organization does not factor into this response. In point of fact, when the higher response average from the third quintile group is removed from consideration, the remaining four quintile groups each responded with a mean that falls within a very narrow 0.2 range. Overall, although the organizations understand the need for employees to remain current in their selected fields of expertise, less attention is being given to continuing the education opportunities of middle and upper-level employees.
The second area that the survey results indicate a need for greater emphasis is that of strategic finance. Although the surveyed organizations have a strong focus on markets and competition, these same organizations are placing less emphasis on the remaining external issue of strategic finance. The concern from this result is the role that finance plays in the overall success of an organization. Although an organization can have an optimum market strategy, the failure to develop a strong financial plan to execute this strategy will ultimately lead to failure. Similarly, the lack of focus on finance as a tool to identify and cultivate potential customers results in the organization having one less strategic tool to utilize in achieving its long-term vision. Finally, with a third of the organizations responding that no planning has been done in this area, the indication exists that many firms are leaving themselves vulnerable to the cyclical nature that is the hallmark of the AEC industry.

The Impact of Size

Any research in the AEC industry cannot ignore the fact that the industry is comprised of many more small organizations than large organizations. Based on Census Bureau statistics, there are approximately 73,000 architectural and engineering design organizations with a payroll in the U.S. (U.S Bureau of the Census 1999). While this entire design component of the industry had revenues of approximately $105 billion, the top 500 design firms accounted for $29.4 billion (ENR 1998). This translates to 28% of the revenue being accumulated by less than 1% of the industry. Given this difference in size, different forces will act upon these organizations. Similarly, the authors believed prior to this survey being conducted that these same differences would exist between the top revenue generating group in the survey and the bottom group.
Given that the average revenue for the respondents from Group 1 was $280 million and the average for the respondents in Group 5 was $11 million, the hypothesis was developed that statistical differences should appear between the quintiles. However, as detailed in the data sections, these statistical differences did not appear. The same strengths and weaknesses were found in every quintile. Uniform strength was found in knowledge resources and markets, while uniform weaknesses were found in lifelong learning and strategic finance. In summary, the strategic management survey disproved the initial research hypothesis and indicated that strategic management practices are statistically similar throughout the Top 500 design firms.

CONCLUSIONS

The first step in the process of moving to a strategic management perspective is to determine where current strengths exist, where gaps exist, and where the priorities will be set to build upon these answers. An organization should not be discouraged if it finds one or more areas have significant gaps at the present time. Every organization has room to improve. The difference between the organization that is destined to succeed and the one that is destined to ride the waves of the marketplace is the desire to fill these gaps. At the same time, the organization needs to be realistic about its efforts to fill these gaps. In some instances, significant investment is required to move forward toward strategic objectives. In these instances, the organization must set priorities and balance available resources. For example, if an organization finds itself with gaps in education and competitive analysis, then a decision must be made as to which of these gaps requires the greater attention at the current time. Since each of these gaps will require an investment of time, planning, and monetary resources, the organization must determine where
the resources will be allocated and put in place a measurement system to obtain feedback on the success of these allocations.

Often overlooked by organizations except in the context of market share or revenue projections, strategic evaluation emphasizes the need to evaluate the progress of each strategic management component on a regular basis (Meredith 1999). Similar to the current emphasis on business development evaluation, strategic management evaluation is required to determine progress toward achieving strategic objectives. However, in contrast to the business development evaluation, strategic management evaluation may not be quite so clear and well defined. Items such as lifelong learning and core competencies cannot be measured in terms of dollars and market share. Rather, these strategic management issues need to be evaluated in terms of organization progress and movement toward an ultimate goal. For example, an organization that sets the goal of increasing the focus on core competency operations may not be able to place a dollar return on that specific objective. However, that does not translate into a failure of ability to evaluate progress toward that goal. Rather, the evaluation criteria must be altered to fit the criteria. In this case, the criteria may be the increase in clients requesting services related to the core competency, or the number of new hires related to the core strengths. In either case, the evaluation criteria focus less on dollars and more on building a foundation for long-term success.

The strategic management survey illustrated that design organizations are taking steps to increase this focus on strategic management issues. However, progress in several areas is still required. Undertaking the moves required to achieve this progress may be painful for some
organizations, but this discomfort should be tempered by the thought that the organization is setting in place a roadmap for the future. In contrast to organizations that ride the waves of the marketplace, the organization that institutes a strategic management perspective will be setting its own direction and path through the changing waters of the market. It is through this independence, aggressiveness, leadership, and vision that organizations will move to the forefront of the AEC industry and ensure themselves an opportunity to respond to the constant changes in the global marketplace.
APPENDIX. REFERENCES


Bureau of the Census, Washington, D.C.
Appendix A: Survey Instrument

Name _____________________________________
Title   _____________________________________
Organization  _______________________________

Strategic Management Survey

First, we would like to ask you some questions about yourself.
A. How long have you been with the company?
   ______ YEARS        ______ 23.35 Years (Average)

B. List your degrees obtained and major field of study.
   ______________________ Bachelor       ______________________ Field of Study
   ______________________ Master       ______________________ Field of Study
   ______________________ PhD       ______________________ Field of Study

C. What is your experience background?
   ______ YEARS AS FIELD AND/OR OFFICE ENGINEER
   ______ YEARS AS PROJECT MANAGER
   ______ YEARS AS EXECUTIVE (vice president and above)

Next, we would like to ask you some questions about your organization.
D. How many full-time employees are in your organization?
   ______ NUMBER

E. Please rank the following business sectors in which your business operates (rank all that apply).
   ______ General Building       ______ Petroleum
   ______ Transportation       ______ Power
   ______ Manufacturing       ______ Environmental
   ______ Industrial Process       ______ Telecommunications

F. How is your business organized (e.g. business segments, geographic location, regional divisions)?

Next, we would like to ask you some questions about corporate management.
Several of the following questions request that you respond with an answer from a scale from 1-7. The numbers in
the scale correspond to the following definitions. Please use these for each of the scaled questions.
1. Not aware of the concept
2. The organization is aware of the concept or issue, but no action has been taken
3. An action is in the conceptual stage of development
4. A formal action plan has been developed
5. The action plan has been initially or preliminarily implemented
6. The action plan is in full implementation
7. Evaluation measures are in place to check the progress or success of the action plan.

G. How far ahead does your company plan for strategic initiatives?

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<th></th>
<th>&lt;1 Year</th>
<th>1-2 Years</th>
<th>2-3 Years</th>
<th>3-4 Years</th>
<th>4-5 Years</th>
<th>5+ years</th>
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<td>25%</td>
<td>13%</td>
<td>32%</td>
<td>3%</td>
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H. Have you incorporated the concept of strategic planning into your organization? (Circle Your Answer)

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<th>2</th>
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<td>14%</td>
<td>9%</td>
<td>17%</td>
<td>29%</td>
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I. Has your organization developed a vision statement?

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<tr>
<td>Response</td>
<td>76%</td>
<td>24%</td>
</tr>
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</table>
J. Has your organization developed a mission statement?
   YES  NO
   Response 80% 20%

K. Has your organization developed short-term objectives to achieve the stated vision and mission?
   YES  NO
   Response 90% 10%

L. Have you incorporated the concept of core competencies in your organization?
   Response 8% 16% 14% 6% 20% 25% 11%

M. Is your organization using Internet-based technologies (e.g. World Wide Web) to facilitate information and knowledge exchange between your professional staff?
   Response 0% 1% 4% 5% 21% 46% 23%

N. Has your organization put in place procedures for lifelong learning?
   Response 10% 21% 12% 7% 18% 24% 8%

Please list most frequently used education methods.
1. ____________________________
2. ____________________________
3. ____________________________

O. Is your organization conducting financial risk analysis to forecast and protect your organization from economic swings?
   Response 9% 22% 16% 9% 15% 13% 16%

P. Is your organization conducting market analyses to proactively identify new and expanded organization opportunities?
   Response 1% 11% 9% 12% 5% 6% 7%

Q. Is your organization proactively positioning itself to protect against new competitors?
   Response 5% 15% 10% 4% 14% 40% 11%

Finally, we are interested in your additional thoughts on these issues.
S. Is there anything else you would like to tell us which might help in our future efforts to understand how executives feel on these issues (please attach additional pages if necessary)?
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<th>Number of Respondents</th>
<th>Percent of Group</th>
<th>Percent of Overall Survey</th>
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$^3$ The $\chi^2$ number must exceed the Criticality Factor to indicate statistical significance.
Internal Strategic Mgt. Issues

Averages with +/- 1 Std. Deviation

Planning Period
Strategic Planning
Core Competencies
Knowledge Resources
Lifelong Learning

Issues
External Strategic Mgt. Issues

Averages with +/- 1 Std. Deviation

Issues

Finance
Markets
Competition
Table 1: Quintile breakdown of survey group respondents based on revenue data.

Table 2: Statistical analysis of average response and criticality of size of organization on response average.

Figure 1: Averages and standard deviation values for the internal strategic management issues in the survey.

Figure 2: Percentage of companies having vision, mission, and objectives statements from each of the five quintile groups.

Figure 3: Averages and standard deviation values for the external strategic management issues in the survey.