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ORGANIZATION AND PRACTICE/CASE STUDIES OF FOUR LARGE HOUSTON ARCHITECTURAL FIRMS

by

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ABSTRACT

ORGANIZATION AND PRACTICE/CASE STUDIES OF FOUR LARGE HOUSTON ARCHITECTURAL FIRMS

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The purpose of this study was to investigate and establish linkages between architectural practice and organization. Linkages refer to the interrelationships among: (1) what one does with respect to professional, building-related services (practice); and (2) the business framework in which the practice is formed and operates (organization). Fifteen criteria (five architectural practice divisions and ten organizational categories) were chosen across which to evaluate architectural firms. Four companies were chosen as the resource: CRS Design Associates, 3D/International, Goleman and Rolfe, and S. I. Morris Associates.

A literature search related to each critereon was included as background material and to delineate the available options. Oral interviews with members of each case study firm were conducted concerning the fifteen criteria and an historical sketch to better understand the contemporary situation of the institution. Government questionnaires and books produced by, for, and about each company were collected.

From the case studies and generic material, forty-two linkages were established in two groups. The first group of twenty-five dealt with linkages having at least

one critereon among: (1) internal delegation (function, team); (2) control (centralization, decentralization); (3) directive and participative approaches; and (4) continuity. The remaining seventeen linkages concern the other eleven criteria.

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Mel Hildebrandt	Golemon and Rolfe
H. Davis Mayfield	3D/International
Marty Moore	S. I. Morris Associates
S. I. Morris	S. I. Morris Associates
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PART ONE - ORGANIZATIONAL FRAMEWORK

INTRODUCTION

> "Today, the practice of architecture is irrevocably complicated by the business of architecture."[1]

Of prime concern to practicing architects is the need for orderly handling of business matters, whether seen as enabling the practitioner to profit more from his work or to free up the designer's time from distracting matters of business. In a recent series of National Science Foundation conferences on environmental design research, participants in each of the five meetings expressed the great void of information concerning architectural organization.[2] Combining this lack of knowledge and the attitude (and reality) represented by Enion's preceding quotation, the opportunities for investigations into practice and organization abound.

Hypothesis

Linkages exist between architectural practice (what one does with respect to professional, building-related services) and the organizational alternatives of the institution (the business framework in which the practice is formed and operates). The basic objective of this research was to investigate and establish linkages among the criteria surveyed in this effort. This was accomplished by a survey of organizational theory in professional service institutions and a view of the historical and contemporary situations of four case studies.

In years past, architectural professionals (similar to other service disciplines) have been criticized for promoting or "retiring" practitioners into management almost by default,

at least in spite of evidenced qualifications. However, with (1) more and more organizational theory available, and (2) the economics of competition demanding ever increasing talents outside the "design" realm, a few firms have capitalized upon the situation and excelled in the practice as evidenced by economic growth.

Opportunities represented by these events can be exposed and, consequently, enhanced and communicated. Problems emanating from these topics can be avoided (or at least consciously acknowledged) by being delineated. In short, the experiences (successes and failures) of these firms can provide others with valuable lessons concerning practice-building.

This introduction will:

*briefly present "professional service organizations" as a generic business type

*pinpoint organizational criteria to be studied in this effort and justification for the criteria selected

*detail some of the reasons for selection of the four case study organizations

Professional Service Organizations

The first part of this document deals with the organizational framework of professional service institutions and architectural operations as a subset of this. A professional service organization, for purposes of this investigation, is a for-profit association of "knowledge workers"[3] brought together for the purpose of providing a solution to a problem set; a solution as opposed to a physical product.

In establishing self-control for a professional service organization, Drucker[4] cites six steps of the methodology. They are:

*setting of boundaries ("what out business is, and what it should be")

*establishing goals and objectives (derived from preceding step)

*prioritizing criteria or "measurements of performance"

*continuing feedback between the measurement and goal setting

*periodic reviewing of the objectives and results, to modify as necessary the activities of each step.

The outline seems similar to a generic process any business should take, with one major exception. The periodic review stipulated here is essential as no "market test" exists for service institutions, such as is present in a product business. In professional service organizations where:

*innovation is the business

*lead time to adapt to changing markets may be years instead of months

*a temporal success may be enshrined as an axiom

then the objective evaluation review must intercede.

One of the most tenacious arguements against this process is the lack of measurable criteria with which to judge performance. However, many service organizations have instituted various scales of simulated decentralization[5] to break accountability for

specific tasks into more comprehendible groups, then establishing criteria which these autonomous groups could deal with as representative of performance.

Concerning whom to enlist in the activities of business problems, surely the professionals must be involved. However, as organizations become increasingly complex and external constraints are more cumbersome, the alternatives to the practitioner spending solely his time on such matters must be investigated.

> "The principal or senior partner of a larger organization must devote most of his attention to management. This being the case, the question has been raised whether a person educated and trained as a business executive rather than as an architect would not be more suitable as the head of such a firm."[6]

However, Cowgill and Small continue, and dismiss this option since "the head ... must carry the responsibility for the decisions and work of the organization."[7] This argument lacks the logical basis to preclude business-trained people from serving architectural firms at all, as experience has shown. Thus, the advent of training for people in architecture and business. In "Room at the Top: the Rise of the Professional Manager",[8] three people are cited as having made the transition between architecture and business. Each sees his role as creating an "environment in which the design professionals can be most productive."[9] Jack Rains (quoted in "Room at the Top...") pointed up three alternatives to fill the business aspects, or bridge the gap between architectural practice and the commercial environment in which it must exist.

First, the professionals may handle the management of their own service organization. In spite of the numerous aids (books, seminars, lectures, etc.) this self-help route is acceptable only (in Rains' view) in small firms, because it is the available avenue.

Although he supports this belief with qualification and analogy, Rains probably underestimates the efforts of many practitioners.

The reason for partial failure of continuing eduction programs concerning business aspects of professional services seems to be the lack of context within which to place each short course. Most of the "do it yourself" sessions or similar materials are good tools and techniques, if the nuances of each may be understood, and a basic framework (methodology) is available. Often, though, this requisite for a structure within which to place the new operations is not present.

Second, outside consulting firms may be used, and to a good point on certain situations. However, for day-to-day direction, it is difficult for consultants to be adequately informed of the particulars pertinent to each action, and the cost of such advisors is often prohibitive.

Lastly, a person qualified in business may be brought into the staff. Rains feels it is necessary to allow the professional manager to participate in the firm and its profits, in order to be on a level of responsibility equal to the design professionals. Although for large firms, this option is most advisable, few smaller firms (e.g. - under fifteen people) can effectively use a full time professional business person, or afford one. In such cases, the former alternatives seem most attractive.

In considering generic goals for professional service organizations, Robert Braden of TCB, Inc., Houston, has described the value or "supreme goal" as being profit. This value is circumscribed by a triangle (Figure One). Each vertex is associated with an area of concentration: (1) client satisfaction; (2) quality assurance: or (3) professional

development of staff members. Addressing the issues of each of the vertices is necessary and sufficient to insure profitability.

Figure One/Professional Services Triad

Organizational Criteria

The following matrix is a list of the characteristics germane to the study. The page numbers refer to the specific sections in which the critereon and the associated general or case study context is discussed.

The quantitative categories of dollar volume, financial growth history, and staff size of firm were included in this study to give a quick, relative picture of the four firms to each other, other state and local firms, and similar firms across the nation.

Robert Braden's generic goals for professional service organizations were selected to discern where an individual's or firm's priorities existed among the three categories (staff development, professional quality, and client satisfaction). Also, these goals were reviewed by one of each firm's representatives to check for any additions peculiar to the four case studies.

The legal form of each organization has been included to trace the evolution of the institution across the several types. Another intent was to establish linkages between the legal form and architectural practice. Lastly, the time differential between

ORGANIZATIONAL CRITERIA

Critereon	Organizational Framework	Case Studies			
		CRSDA	3D/I	G & R	SIMA
$ Volume p.	50	57	68	78	89
Financial Growth		140	141	142	143
Size of Firm (# People)		57	68	78	89
Braden's Goals	6	61	71	81	90
Legal Form & Constraints	13	58	71	80	91
Profiles/Hunter, Shepherd, Farmer	25	62	71	81	91
Internal Delegation/Function, Team	26	62	72	82	91
Control/Centralization, Decentralization	30	63	72	83	91
Directive and Participative Approaches	32	63	73	83	
Conflicts of Stability and Flexibility		63	73	83	93
Client Mix	34	64	73	83	93
Project and Office Location	36	64	73	84	93
Services/Specialization	37	64	74	84	93
Continuity/Empire-Building	38	65	74	84	92
Goals & Objectives/Clarity, Communication		62	71	81	92
Summary	41	66	75	86	95

(1) innovation and instituting of legal forms, and (2) legal and professional sanction of these same options was of importance as a measure of the lead time between acts and the broad acceptance concerning large architectural organizations.

The justification for the profiles (Hunter, Shepherd, Farmer) was a need to conveniently mirror the different personalities of individuals and firms. This analogy recognizes that people (as well as companies) exhibit many traits, but that one may dominate activity, at least for a particular time period.

From this researcher's previous work, it was found that while many consider decentralization, team, and participation to be synonymous, crucial differences exist among these concepts. The idea that a higher or lower degree of any one of three dictates a similar change in the other two is not necessarily the case. Thus, the occurences of these three approaches and their antitheses were of interest. Also, it seems fashionable, of late, to publicize a firm's devotion to team, participation and (to a lesser extent) decentralization. However, as will be seen in the appropriate section, any or all of these may be totally unsuited to certain sets of goals and objectives as well as certain types of businesses.

The almost mutual exclusivity of stability and flexibility regarding the concepts of control, matrix internal delegation, and participation/direction was included as an example of possible competing objectives. While the practice of architecture demands flexibility and adaptability to accomodate changing clients, theories and approaches, stability reflects a capacity to withstand adversity, and (perhaps) represents the applications of business planning. While one may view stability as predictability, few investors (for

instance) want to be associated with stability's extreme -- rigidity.

Important to the understanding of differences among the case studies were the various aspects of client mix. The committee client, returning clientele, and the origins of such groups seem to be important to the formulation of an organization.

Branch offices were studied as their presence (or lack thereof) are apparent but stable in three of the four firms, the other periodically opening and closing outposts. The relation of branch offices to the headquarters reflects the philosophy (to some extent) of control previously discussed. Similarly, a brief survey of the case study institutions revealed noted differences with respect to services offered. Some specialization within the design process and a great deal of specialization (or perhaps reputation) in various building types was evidenced.

Each firm (or its principals) has been established for at least fifteen years in the region. Each has built up a practice that would take a great amount of scarce resources to reconstruct.

Thus, it seems (as is the case for a number of firms across the profession) important to look at the plans the leaders of the firms have made for each organization's continuation beyond their active participation years. While many future business plans are hard to evaluate in the present, the adjustment for the eventual conveyance of a firm must be initiated five to ten years prior to the actual, total transfer.

Lastly, second in importance to the establishment of goals and objectives is the communication of these statements to the people affected. Management literature has long

espoused this exposure as an integral part of "management by objectives."

Thus, some of the criteria have come from previous work in related topics, while other topics arose from the theoretical postulation of some (e.g. - Caudill[10] and Foxhall[11]) concerning these specific firms. A preliminary review of information on each firm led to the remaining criteria from differences among the firms or one firm over time. Much of the information is general knowledge concerning the four firms. To reiterate this, S.I. Morris commented that "Houston is a small town" regarding various architectural practices, and that much of what these firms attempt is relatively widely known (or at least surmised) by their comrades.

Selection of the Case Studies

The apparent and, perhaps, superficial similarities of the four firms (CRS Design Associates, 3D/International, Goleman and Rolfe and S. I. Morris Associates) were the initial basis for researching their organization and practice experiences. Namely:

*size of staff (all above 50 people)

*location (Houston)

*discipline (architecture, primarily)

The identification of the four in the Houston Business Journal[12] and Engineering News - Record's "Top 500"[13] first led to considering the companies.

These four case studies are not meant to represent the spectrum of architectural practice, nor even the circumstances of large architectural offices as the sample size is: (1) minute; and (2) heavily influenced by factors (e.g. - location) other than size.

Footnotes

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2. Williams, Donald L. Environmental Design Research, 1976. Houston, Rice Center, 1976. p. 10.

3. Terminology of Peter Drucker, Management: Tasks, Responsibilities and Practices. New York, Harper and Row, 1973. This phrase is used to describe the growing class of workers whose efforts are distinguished from manual - work people (skilled and unskilled).

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6. Cowgill, Clinton H. and Small, Ben J. Architectural Practice. New York, Reinhold, 1959. p. 16.

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10. Caudill, William W. Architecture by Team. New York, Van Nostrand Reinhold, 1971.

11. Foxhall, William B. editor. Techniques of Successful Practice. New York, McGraw Hill, 1975. Especially concerning Goleman and Rolfe's organizational structure.

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ORGANIZATION/LEGAL FORM

> "When principals select a form of organization for their firm, they vitally influence not only themselves, but also their clients, employees, and even their heirs."[1]

Professional service organizations operate under one or more of a variety of legal forms, although the most common are proprietorship, partnership, and the professional corporation. The purpose of this section is to describe each type and discuss some of the strengths and weaknesses of each as they relate to the practice of architecture, especially among large firms.

Considerations

A checklist of major considerations regarding this decision are:

"*taxation

*liability

*continuity

*legal capacity"[2] (i.e. - the power to sue and be sued, own property and enter into contracts).

Some "secondary" aspects of this decision process (according to Dibner[3]) include:

*personalities and ages of participants

*financing

*size and practice mix of firm

*geographic location of the office(s).

These secondary aspects, especially the component concerned with people, become as important as the first checklist when considering "knowledge work" and the people-intensive attribute of professional service organizations.

In addition to these largely internal characteristics, statutory and case law directly affect the decision of legal organization more than they influence any other area of the organizational arena. Thus, the constraints and decisions of legal form, while influenced heavily by "external" circumstances, set the basis for other (operating) options.

Proprietorship

The first type, proprietorship, is the form of ownership in which one individual has exclusive title to the company, its profits, liabilities, and responsibilities. The American Institute of Architects cites the proprietor's complete control for the "design philosophy, type of practice, associates, consultants, and method of production."[4] Although this independence may be argued conceptually and this form of organization comes closest to the description, the demands of clients, employees, and other practitioners temper this absolute philosophy, for good or ill, in actuality. The major strengths appear to be:

*degree to which the principal may determine his own practice

*lack of "double taxation" incurred by corporations

*avoidance of somewhat cumbersome procedural and recording matters.

The liabilities of the proprietorship are:

*demands for capital and any ensuing personal liability for loans

*difficulty of continuity in ownership and practice

*lack of incentive for key members to commit great amount of resources

*inability to organize a large team effort.

Partnership

The second legal organization is the partnership. The partnership is "an association of two or more persons to carry on as co-owners a business for profit. It is the result of an agreement."[5] The agreement is between individuals (not the state) and is, thus, more easily and economically formed (than is the corporation) and exempt from "foreign business" laws of various states in which the partnership might practice.

According to Corley and Robert[6], three other advantages of the partnership are:

*exemption from taxes

*equal voice of each partner (unless precluded by the agreement

*less governmental regulation than for a corporation.

In addition:

*authority and liability are dispersed to a broader group of people, broadened ownership providing the necessary incentive and capital to bring larger groups together for a common effort.

The problems associated with the partnership (taken from Corley and Robert[7] and the AIA[8]) are:

*individual's business liability being extended to the acts of any and all partner's acts

*fixed number of partners allowed for in the agreement

*dissolution of the formal organization at the time of any partner's departure

*certain tax treatments on undistributed profits and pension arrangements.

The preceding discussion has been directed at general partnerships, but is mostly applicable to the other component of this category, the limited partnership. The limited partnership differs in that is makes provision for the recognized inclusion of junior members in the firm's legal agreement. The general partners maintain the unlimited liability, while limited partners have a business liability only for any "contribution to creditors"[9] specifically agreed to. Limited partners also have authority to access and accounting of the firm's books, information which the public is not usually privy to.

The differences in the limited partnership are:

*prohibition of limited partners participating in the firm's management (or face exposure to unlimited liability[10])

*partnership agreement (e.g. - Uniform Limited Partnership Act) including the state as a party, giving it entry necessary to require actions and products of the partnership from which a general partnership would be exempted.

Corporations

The third type of business organization is the corporation. With regard to professional firms, Texas legislated accomodations for corporation in 1970. Again, a variety of sub-sections are present, but for the purpose of this discussion only the private corporation is applicable. The glossary in Corley and Robert[11] defines a private corporation as "a collection of individuals created by statute as a legal person, vested with powers and capacity to contract, own, control, and convey property, and transact business within the limits of the powers granted." This private corporation is further denoted as being "closely held" (or "close", sometimes referred to as "private", as in the following TSA survey) and "publicly-held" (sometimes referred to as "public", although not to be confused with actual public corporations). Henn defines the "close corporation" as

> "A corporation whose shares, or at least voting shares, are held by a single shareholder or closely-knit group of shareholders...In the close corporation, usually there are no public investors; its shareholders are active in the conduct and management of the business. The close corporation is formed to achieve certain corporate advantages, usually limited liability and corporate tax advantages, at the same time perserving many of the internal attributes of an individual proprietorship or a partnership."[12]

Most professional service corporations are under this classification. However, more and more professional organizations are converting to publicly-held mechanisms, as evidenced by Loehwing.[13] The publicly-held corporation sells shares of ownership in the market place and is governed by a board of directors. Its advantages compared to the "close corporation" include:

*ability to acquire increased capital through stock sales

*generally better standing with lending institutions

*ability to merge with similar or diversified organizations.

At the time of Loehwing's article (1973), he identified three publicly-held A & E firms in the southwestern United States. Two of these (Diversified Design Diciplines which will be discussed as one case study, and Benhan-Blair Affiliates of Oklahoma City) have reverted to closely-held corporations. Only CRS Design Associates (another case study) has remained publicly-held. The possible reasons for these actions will be discussed in the context of each case study, but it may be noted that price-to-earnings ratios for all nineteen professional service firms cited were considerably below average for all publicly-held corporations. One must remember that although comparisons between professional service organizations and manufacturing companies (for instance) might be inequitable in certain ways, the ability to compete for investment dollars does not consider the appropriateness of the comparison, but is interested in the quantifiable profit, earnings, and risk factors.

The strengths of corporations (closely and publicly-held) are:

*limited business liability to owners

*perpetual existence

*separate and unequal ownership

*employee benefits to principals

*tax considerations (including pension programs and accumulation of reserves)

*mandatory keeping of accurate business records.

The most common problems of corporations are:

> *cost and time associated with forming and maintaining the corporation
>
> *"double taxation" of corporate income
>
> *nuances of "foreign" corporations in various states
>
> *increased governmental regulation.

Additionally, the AIA[16] cites the hypotheses that clients might interpret incorporation as an attempt to avoid certain liabilities (although professiond liability is immune to the liability limitation) and the possibility that a corporation might invite more lawsuits because of the more "impersonal nature" of the organization. These last two statements seem to be founded more on supposition than on any concrete evidence. There may be a valid contention that publicly-held firms might compromise professional practices to the demands of lay-ownership; however, this has yet to be substantiated. Rather, the problem of publicly-held firms not encountered by proprietorship, partnerships, and closely-held corporations is the extra layer of records and procedures involved in complying with the Securitites and Exchange Commission (SEC) regulations.

Two other legal forms of professional organization are the joint venture and association. Each is ably covered in various business publications and by Carlson and Scott.[17] The summary of the differences are that:

> *A joint venture resembles a partnership with one important difference: (a) partnership is formed to transact a general and continuing business of a particular kind; a joint venture is formed to render architectural or engineering services for a single project...An association is a more losely defined

arrangement. It allows two or more firms to work under the contractural umbrella of one while each participant remains independently responsible for its own activities."[18]

Evolution

The reasons for a firm's evolution through these various legal forms are as numerous as the companies themselves. However, five common and seemingly primary bases are recurring. First, as the size of an architectural firm increases, the demands for capital increase at least proportionally and perhaps exponentially. The credibility of professional service organizations with creditors increases, generally, if the firm is on the corporate end of the evolution rather than a proprietorship (Figure Two), due to the perceived permanence of the organization. In addition to corporate assets, the personal liability of the principals is sometimes required in loan agreements, negating the business liability exemption of this form.

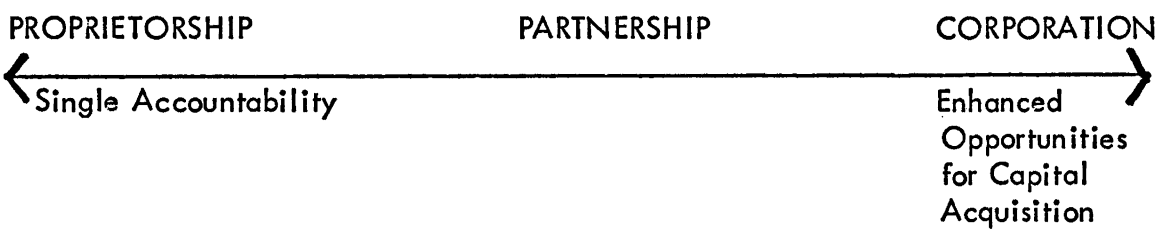

Figure Two/Evolution of Legal Form

Second, and in addition to the standing with outside creditors, the transition toward a broader base of ownership can bring capital if new positions in a partnership or corporation are sold. These funds may then be retained in the firm or disbursed to the former principals as equity recovery.

Third, returning to the ideas of corporations having more perceived permanence than partnerships (likewise, partnerships greater than proprietorships), the form of the

organization has a good deal to do with the continuance of the company after the withdrawal of one or more principals. The proprietorship would extinguish, technically and practically. The corporation would carry-on, provided its delegation of authority had been broad enough. The partnership's longevity would be somewhere in between, depending again on the past experience of the operational form while the partnership itself would be abolished (legally) as one of the parties to the agreement would have withdrawn. Thus, while the firm's continuity beyond the individual's participation relies to a large extent on the operating form (reference ORGANIZATION OPERATING FORM), the legal framework does reflect on the chances for continuance.

Fourth, as a principal of a firm begins to think of eventual retirement, several decisions must be made regarding the firm's disposition. The market for services, the desirability to continue the firm, and the availability of someone to lead the company are just three of the many decisions to be faced. Concerning this last point, further reference will be made in ORGANIZATION/OPERATING FORM. However, briefly stated, as the person approaches withdrawal, the legal options to enhance the firm's longevity become more important.

Lastly, as founders and key people within the organization prepare others for future positions of responsibility, the legal form either lends itself to the educational process, or detracts. In a corporation, the firm may expand with reasonable ease its structure to include the new person in fact, as well as in practice. If a partnership exists (especially a limited partnership), the expansion of participating people may be more difficult. Finally, in a proprietorship, the "student" may have little motivation as the

future ownership of the firm is not assured of passing to him.

Summary

The following matrix serves to contrast and compare the three types of legal organization (i.e. - proprietorship, partnership, and corporation) across Corley and Robert's checklist of major considerations.

COMPARISON OF THREE LEGAL FORMS

	Proprietorship	Partnership	Corporation
Taxation	*All profits and losses are passed through the company (untaxed) to the owner. No distinction between accumulated and distributed profits. *Pension and benefit plans not deductible, except through Keough.	*Similar to Proprietorship	*Profits taxed at corporate stage and again on individuals if distributed earnings to owners. Accumulated reserves often exempt. *Pension and benefit plans deductible from certain corporate profits.
Liability	*Unlimited business liability to owners for firm's acts. *Professional liability unaffected by legal form; subject to regulations of state.	*Unlimited business liability to general partners for firm's acts. *Professional liability similar to Proprietorship.	*Limited business liability to owners (stock holders). *Professional liability similar to Proprietorship.
Control	*Retained by sole owner.	*Usually equally divided among general partners.	*Owners elect board of directors with fiduciary responsibilities, and employ executives to operate day-to-day affairs.
Continuity	*Firm is dissolved upon departure of owner.	*Partnership legally dissolved upon departure of any partner, although in practice the remaining principals may draft another agreement.	*Perpetual life. Stock subject to sales and inheritance.
Legal Capacity	*Property ownership and litigation carried on by and against proprietor.	*Similar to Proprietorship.	*Corporation as a "person" has rights to ownership, contracting abilities, and litigation distinct from its owners.

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ORGANIZATION/OPERATING FORM

> "Organization is a means to an end rather than an end itself. Sound structure is a prerequisite to organizational health; but it is not health itself. The test of a healthy business is not the beauty, clarity, or perfection of its organization structure. It is the performance of people."[1]

People are foremost in importance when considering a particular organization's suitability to a situation. Drucker's quotation (above) was directed at business enterprises in general. It is even more crucial that this attitude be held by principals in professional service organizations. By their nature, these firms are "people intensive". As cited in various sources, close to ninety per cent of an architectural firm's assets walk out the door every evening.

Richard Enion, in an article directed at architectural organizations, emphasized:

> ". . . controls and procedures should be introduced into an architectural firm only to the extent that they can be expected to nurture an atmosphere of freedom and creativity, make it possible to capitalize upon it and thus provide an effective and profitable enterprise." (Author's emphasis)[2]

Profiles/Hunter, Shepherd, Farmer

The people to whom these techniques are directed each have characteristics that Dr. Stuart Rose of the AIA's Continuing Education branch has described as Hunter, Shepherd, and Farmer. The following is a cursory list of characteristics associated with the descriptive labels:

*Hunter — achiever, competitive, willing to drive

	self and others at or beyond capacity, "mover and doer", fed by ego satisfaction. Sees Shepherd as "do-gooder", and Farmer as too focussed on things.
*Shepherd	Sensitive to needs of others, harmonizer, social creature, satisfied by a "happy team" and "smooth operation". Perceives Hunter as too "power hungry", and the Shepherd as anti-social.
*Farmer	Product-oriented, technically competent, concerned with getting the task done, not receptive to interference of Shepherd or cut-throat tactics of Hunter.

While each individual has all three of these characteristics within, one is usually dominant. The order of the remaining two traits is important as well, since this determines the person's ability to identify with others in and outside the firm.

With these precepts (the importance of people and symbolic representations of people) in hand, the purpose of this section is to explore options of firm structure in seven areas, the implications of such alternatives, and work that has been done in these regards as applied to architectural organization.

Internal Delegation/Function, Team, Department

In terms of work organization, Drucker cited three categories or models applicable to

management.[3] The first division is by work processes (e. g. - for house construction, the categories might be foundation, walls, roof, etc.). Second, is the set where work materials move to the skill areas (e.g. - elctronic assembly). Lastly, the team (a combination of specialists forming a group with sufficiently comprehensive talents) is organized according to the needs of the project and moved to the work. The first two groups (work process and skill areas) will be labeled together as "Function", the "Team" being distinguished for purposes of this discussion. Across four criteria, the Function and Team approaches were compared and contrasted.[4] These topics were people development, flexibility, stability, and ability to deal with single and/or comprehensive tasks.

The major characteristics of the functional organization is that it is "effort - focussed".[5] Each department considers its job as most important, and subordinates the rest of the company's activities. In tandem, however, the quality of craftsmanship and professional standards is high. In the case of Function, stability and clarity are dominant. Each person has a "place" and is usually able to identify such. Understanding of the single task is acute, but relating the task to a greater whole is difficult, at best. With stability comes some rigidity which is an asset in some terms, but ranks low in a context where response to dynamic inputs is necessitated (e.g. - architecture). The demands of an approach where each project has a substantially different set of constraints make rigidity counter-productive. In preparing people for management, the functional form does little, and in fact, may contribute to the inability of a technician in relating to the generalist problems and opportunities of management.

The Team form is, by contrast, end-focussed. The whole is perceived as being important,

but at the expense of quality in the specialities. The team demands a great amount of maturity or self-discipline on the part of each person, in order to provide pieces of a project reflecting as much sensitivity as the whole does. Herb Paseur has commented that the person who is offering very little to a firm can probably survive longer in the team context, as individual evaluation and scrutiny are generally less well defined in the team approach.

The team encompasses stability and clarity only in cursory manners, and then only by strong direction from the team leader. It is recognized that if the problem of individual clarity can be overcome, the team approach is more suited to complex, unique problems.

In dealing with the interrelation of several differing tasks, one might be distracted from that person's own responsibilities. However, it is precisely this interaction which enables the team to handle complex tasks. Each member knows how the assignments build to the conclusions. The team is adaptable (both during one project and over the longer term), and participants are frequently added or removed for short intervals throughout a project. At the end of one assignment, the team members may remain together for another job or follow-up on the previous work, or disband to reform other working groups. This constant state of flux broadens the informal modes of education by reinforcing a high degree of interaction between members of diverse disciplines and training.

Teams, with respect to preparing and testing people for management positions, do little better than Function. Teams are still staffed by specialists, and it is difficult for these people to be objective with respect to a plethora of disciplines. However, exposure

to the comprehensive aspects of the project and process are aids to alleviating the technologist-to-manager transition dilemma.

Finally, teams have a need to be small. This constraint is to insure a relatively simple, but adequate, communication network (upon which the team thrives). Drucker indicates a maximum of twenty people for a team, although different individuals and problem sets demand a wide variation on this number.

Lickhalter and Enion, in an article entitled "Team vs. Department"[6], define Team in the same way as has been discussed here. Department is generally translatable to Function. The capsule of the article dealt with the hybrid of these two absolutes in which there is a two-way grid (Figure Three). A similar framework has been instituted at TCB Incorporated of Houston.

The goals of this overlap (for TCB) are that the person will realize the total nature of the project (and comprehensive employee development), through Team association, while having a "devil's advocate" representative in the particular department to:

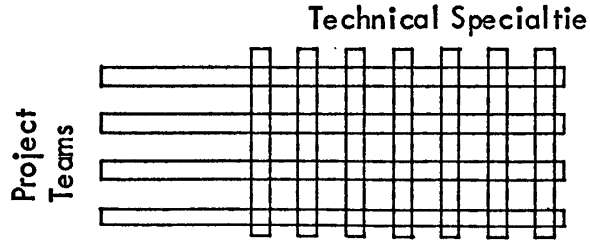


Figure Three/Team, Function Interface

(1) assure that the product is of sufficient quality with respect to the particular specialty, and (2) monitor and evaluate the individual's professional development (hoping to avoid placing people in a series of dead-end assignments, causing them to leave). The third

goal (reference Braden's goals for professional service organizations, INTRODUCTION, p. 7), namely client satisfaction, is covered by having one project manager (team leader) who is responsible to the client for the project's duration.

It seems important to note that large firms (perhaps over 40 people) have a need to departmentalize people, to give them a "home base", for a variety of reasons. However, this department is distinctly different from the Functional approach.

Control/Centralization, Decentralization

The second set of options to consider is the centralization/decentralization issue. Decentralization is not the geographic dispersal of work locations (although these may be coincidental), but rather the delegation of authority and responsibility for various actions to the "lowest" appropriate level of the organization where these problem sets can be addressed intelligently. Centralization is the consolidation of decision-thinking and decision-making in one (or a few) top positions of the company.

The case has been illustrated by Jay[7], using the King/Baron analogy. In a situation where the top person is "king" and the people of the next group down are considered "barons", then either the various barons are strong, or the king is strong. This description may be applied to a lesser degree throughout an organization, where each group's supervisor is seen as king, and the individuals of the group are barons.

Centralization has the attribute of great knowledge and decision-making power within the grasp of one or a few. The clarity of this situation lead to the very quick channeling of information to the leaders, resulting in efficient decision time. However, the decision-maker's separation from the matter's origin relies on a many-step communication

network to provide the essential information required in analyzing the situation.

Decentralization, conversly, enables people at or near the origin to act on the circumstances. The price for this closeness is clarity, as the problem may overlap people's areas of responsibility or fall outside anyone's authority.

The adaptability of decentralization is inherently greater than for centralization as the assignments are given to people they will most affect, allowing them to (if objective) analyze key aspect of each different context, then determine an appropriate solution. However, stability is greater in centralization where the responsibilities are given to the same few. The recurring network of information leads to the same information surviving the filtering process, and to predictable results. While people left out of the decision, in a centralized environment, may rightly perceive their small stature in the view of supervisors, they nevertheless are spared the time and attention to solve the problem. The acute weakness occurs when a crucial person is left out because of his vertical (rank) or horizontal (specialty) position. Farmers (reference Profiles) may appreciate this centralization and Hunters may be inclined to it as well, Shepherds tend toward decentralization if they read into this a way to create more interaction and good will among the people.

As is the case with evolution of legal forms within a single firm, one organization may find the centralized approach advantageous to a particular set of constraints. In another time and circumstances, the same firm might decentralize. William Caudill made reference to the fact that he had noticed centralization and geographic concentration of offices occurring during slow economic periods, decentralization accompanying more prosperous intervals.

Directive/Participative Approaches

Concerning another breakdown of the decision process is the directive versus participative approach: Ackerman[8] cited four categories of decision-making approaches: autocratic, bureaucratic, consultative, and participative.

> "1. Autocratic: This organization is run by one person who 'calls all the shots'. He may be your firm's chief designer or the remaining founder of the practice.
>
> "2. Bureaucratic: This firm has a clearly defined heirarchy. More than one principal plays a part in running the firm.
>
> "3. Consultative: Under this system, the organization's key resource people are regularly called upon to provide counsel on major decisions. A greater number of top and second-level managers are frequently involved.
>
> "4. Participative: Every individual in a position of responsibility gets involved in managing and influencing how the firm functions at all levels. Principals, Associates, Project Managers, aspiring Managers, all have a say; every employee is encouraged to react to the way things are run."[9]

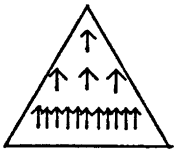
For purposes of this discussion, autocratic and bureaucratic will be combined under the directive approach, and consultative and participative will be referred to collectively as participative. While Ackerman supported the notion that responsible people would be included in all aspects of the firm, the notion of degrees seems important. If a decision directly affects a person, then he should be included in that process. However, the farther the results get from the individual, the less that person should be involved (though never to the extent of not informing him).

In the Japanese model of participation, it is decision-thinking, not decision-making that is important. This retains the accountability of an individual for a decision, while allowing those affected to be involved. Some knowledge workers are extremely adept

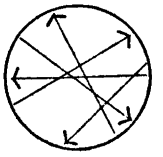
at organizing (or at least in formulating) work tasks, responsibilities, budgets, schedules, etc. Even manual workers in some European factories are being consulted on the same issues.

The participative approach allows for: (1) training the person in roles of management, and (2) frees up the flexibility of the organization. However, the aspiring Hunter may see this as a weakness in his superior's ability to make decisions, and the Farmer may not care to be bothered. This type of approach is where the Shepherd is most comfortable. In an over-zealous moment, this person may even force the interaction, which should be avoided. Some people are far more resentful of this than being left out. In terms of Braden's goal for employee development, participation seems very important. Through the exchange of the individual's and firm's needs and aspirations, a system of continuing education may be established for each person. Travers [10] argues especially for this in connection with learning about the business aspects of professional practice.

Figure Four depicts the directive and participative forms of decision-making. In this diagram, it may be seen that information is highly susceptible to clogs in the participative approach. However, in the directive mode, the filtering of information is the weakness.



Directive
(Pyramid-U.S. Army)



Participative
(Round Table - Watson's IBM Prototype)

Figure Four/Decision-making Access

Appendix C, from Bass and Barrett, indicates the likely contexts for participative and directive responses. Of particular interest is the issue of stability (in Table 3; Appendix C) in the market place. This indicates that the directive approach is associated with stable external demands. Table 5 depicts the same situation in internal affairs (unitary convergent solutions = directive; multiple, divergent = participatory). The adaptability then, is again the converse of stability, tending to indicate participation, provided other constraints (such as those in Appendix C) are not in opposition.

Client Mix

The viability of professional service organizations, and architectural practices more specifically, has always been closely aligned with the clientele a firm had (in qualitive and quantitative senses). This fact has been especially exhibited in the early 1970's, as the building industry experienced recession of a magnitude greater and more widely dispersed than any economic slow-down since World War II. The four aspects of client mix to be considered here are:

*committee or individual

*extent of work for public clients (government agencies, authorities, etc.)

*repeat or one-time client

*origins of clientele.

Committee or Individual. The client may be categorized by at least two types. The committee involves a group of people (such as city council, a hospital board of trustees, or a school district board of directors) with roughly equal voices in determining the outcome. In this case, the architectural firm must be a little to each of the majority members.

The client as an individual may be represented by the chief executive of a private company. While this person may be under a board of directors, he has wide authority for determining programs and policies. This "individual" may represent a group of people (e.g. - the owners and users of a commercial office building) but symbolizes a consensus viewpoint (as opposed to the committee, which may command widely divergent views). In the case of an individual client, the professional must represent almost exactly what the one client demands.

Public Clients. Second, whether the clients are affiliated with the government or not is important as key positions in various agencies are subject to the spoils system, while the private client, while not the same person year after year, is more consistent in terms of objectives and priorities over time. If the client is a government agency, it seems appropriate to either establish the necessary contacts with professional government employees (those who tend to be in low enough positions to survive administration changes) or to market work well in advance to sufficiently cover at least the periods of transition, when the tendency is to slow or stop activity. The problem with the former case is that the people who make the funding decisions may all be subject to executive whim. The latter approach may work for awhile, but if the next governmental group's priorities leave the practitioner out, it is doubtful he could have marketed enough work to outlast the incoming administration. However, governmental work is the mainstay of many professional organizations.

Repeat or One-Time Clients. The third question is whether a customer is a repeat user of services or one who may have as much dollar volume but disperses it in one large amount. The repeat customer maintains the threshold of company work; however,

it is often the large, one-time commission that provides for variations in experience and one-time expenditures. The nature of the work and services may be different as well. For instance, the expertise and challenges of work for the Lake Placid Olympics would be far different from doing offices for a multi-national company.

Origins. Lastly, the facts of a group of people developing a clientele or having inherited it makes a difference. Of course, it is much easier (in terms of spending time and other resources) to have a client passed from the preceding generation of firm leaders. However, the acts of marketing, acquiring, and returning clients keep the responsible people in shape for new work possibilities, and may lead to contacts with others who need professional services.

Thus, stability is most likely to be found among career, repeat clients with previous experience with the firm, in spite of the fact that the actual actors and needs may change. The challenge, and windfall, may come from this profile's antithesis.

Geographic Distribution of Projects and Offices

Many companies, as work opportunities have expanded, have gone after work away from the office, whether by choice or coercion. This then encompasses the first decision; namely, how far to venture in search of work? The boundaries of this aspect of practice are included in the framework process described in the Introduction. If it is determined that the opportunities are great enough to overcome the disadvantages of such expansion, then the principals must decide on conducting the work at the home base, opening up a branch office, or associating with local architects (sometimes required, at least informally). Doing the work in existing offices negates the expenses and frustrations of not being able to communicate face-to-face. However, this removes the

professional from the project's eventual contexts and perhaps separates the firm from the client. The branch office may alleviate the distance problems related to people outside the firm, but trades these for problems of people within the organization.

Associating with local professionals gives one access to people knowledgeable of the contexts (and perhaps the clients) and the opportunity to learn from the interchange. However, "forced marriages" usually fail, and working with unfamiliar people may be as damaging. The problem of working away from the central offices, whether by means of a branch or an association, brings up the barons/king problem, especially for centralized firms.

Services

The professional services a firm offers depend upon people within the firm and its pool of consultants, and upon the client (reference Client Mix). Beyond this, there are two categories of service breakdown that are of interest. These are:

*building type

*process specialization (programming, design, production, construction administration, and construction management).

Building Type. In terms of building specialization, the particular client groups may be highly associated with the building type. In other words health care and educational facilities are usually represented by the committee. Conversely, office and commercial buildings are prone to have an "individual" as a client. Health care facilities may demand a few highly specialized staff people, while speculative offices or general purpose

warehousing may require many generalists. The highly-specialized facility is often an infrequent, but expensive project. The other example (speculative office buildings) may be less lucrative per project, but as important when the quantity and turnover are considered. The strength here is that a firm can be recognized as a leader in one building type, the firm to have. The liability is in this too if the market for this kind of building evaporates.

Process Specialization. Process specialization concerns the work done on specific aspects of a particular project. In other words, one firm may feel the attraction and challenge of architecture are in the design phase, while another organization finds its rewards in the production and construction phases. The problems to the client with this breakdown may be that no responsible party every oversees the comprehensive product (analogous to the Function division of work).

Continuity

In the post-World War II area of design practice, the evolution toward large, multi-disciplined, effective companies has made the old cycles of (1) starting a practice from scratch, and (2) closing it down upon retirement, counter-productive. Thus the need for continuity and transition of control. Jay [12] described the building of a company as a kingdom, the attempts to make it perpetual, by definition, an empire.

Recognizing that the person who can pull diverse baronies (Jay's terminology) together for common good is a rare individual, then it is most improbable of finding that same person who can (after building the kingdom) step back and let others begin to lead. But this takeover is an eventuality (if anything remains that is worthy of inheriting) and

is best started before necessitiated. First, one must analyze the key points (strengths and weaknesses) of the firm and their relation to its success. Then, these must be communicated to the next generation of leaders. Also, the leader must be willing to share everything he knows to educate the heir (or heirs). This (and the actual passing of authority) are extremely difficult for the Hunter who has operated by almost exactly opposite methods for his entire career. Since the empire building decision is only effectively made at top levels of a firm, and because the selection process for reaching these levels is weighted toward Hunters, it is rare that the transition from kingdom to empire ever effectively occurs.

Coxe[13] pointed out that (1) designers tend to make final decisions, not delegating well the tasks and responsibilities that might benefit the next generation of company leaders, and (2) in a centralized organization, the second tier of managers may have skills complimentary to the leadership, but not necessarily those abilities which the leadership positions will demand. For an estimate, Coxe suggested principals should have a definitive plan for transition by age 50, and should have been commenced by age 55.

It is important that the transition be a phased process. First (unless the former principals wish to donate their lifelong efforts, or the next generation of owners are independently wealthy) the payments for acquisition must be amortized. Second, and more important, the delegation of authority and responsibility must be a gradual affair, letting the less-experienced people get comfortable with one step before having to ingest the next set.

Finally, concerning ownership transition, Ackerman[14] stipulated the need for clarity in the matter. Although not mentioned, consistency in this regard is equally important.

Ackerman further posed the questions concerning: (1) What ownership means, (2) the reasons for sharing and eventually transferring it, (3) the owner selection criteria, and (4) the commitments involved in accepting the ownership offer.

Other Studies

No effort has been made to tie the particular options presented in this section or the previous section (ORGANIZATION/LEGAL FORM) to a cause-effect relationship with "success" (either in the business or design senses of the term). However, some researchers seem to be interested in connecting certain organizational characteristics of firms to design "quality" and success.

Among others, Blau[15] has presented analysis of data on the size, age, structure (complexity), and staff participation in firms and the dependence of "design quality" on these factors. While it is questionable whether "design quality" is quantifiable, the critereon used in Blau's research (number of design awards) is suspect. Some awards are subject to the firms having spent time entering the project into competition. Thus, many, very sensitive projects may not be considered. Also, it is rare that the judges can go to the original problem set and compare the solution to it (in cases where there is not a specific project the entrants are submitting proposals to).

Further, some correlation values (while positive, indicating directly proportional values rather than inversely proportional relationships) were classified as "high" or "good" while closer inspection might lead one to different conclusions. Two cases in point are the correlation of (1) design awards to the firm's size and (2) design awards to the company's age. Only 40% and 18% (R^2) of the variation in design awards could be accounted

for by the variation in size and age, respectively. Thus, although certain relationships may exist between architectural practice and organization (the thesis of this research), attempts to quantify linkages between "success" and organizational attributes remain inconclusive.

Summary

This section has described several options available to organizations for a basic framework. Briefly, in the following matrix, a set of the attributes (which for the most part, may be strengths or weaknesses depending upon the particular context) is listed alongside each option.

OPERATING FORMS AND THEIR ATTRIBUTES

	Option	Attributes
Delegation	Function	Effort-focussed and clear about particular subdivisions of work. Quality of each section generally high. Very stable, also somewhat rigid. Comprehensive whole is not as strong as the individual parts.
Internal	Team	End-focussed and comprehensive in nature. Sacrifices clarity and quality of parts for the good of the whole. Highly flexible, but lacking stability and clarity except in the presence of a strong leader. Need to be small.
Control	Centralization	Great points of knowledge and decision-making. Clarity of who makes the decisions. Communication of necessary facts may get lost before reaching the proper people. Usually very quick responses. Stable.
	Decentralization	People involved with the problem handle the necessary decisions. May be difficult to define responsibilities and accountability due to lack of clarity. Adaptable.
Approach	Participative	Decision-thinking allows those affected to make input into the data gathering. Good for "knowledge workers" who should know a great deal about their areas and responsibilities. Flexible.
	Directive	Allows quicker data gathering and decision-making as time is not "wasted" explaining the problem to a group. Clear. Leaves Farmers to the task at hand without undue external questioning.
Client Mix	Committee	Demands that the architect be a little to a lot of people. Art of politics (the Great Compromise) essential. May be difficult to get everyone headed in a mutually beneficial direction.
	Individual	Necessitates being a lot to a few people. Represents a consensus viewpoint. May mislead professional into believing this client is capable of speaking to the spectrum of needs the client's company represents.

	Option	Attributes
Client Mix (cont.)	Public	Must be wary of the highest one, two, or three levels of decision-makers whose jobs are subject to a "spoils" system. Either market work to span the transition and unfavorable appointments, or contact "career" decision-makers.
	Repeat	Maintain threshold of organization's year-to-year business. Implies stability although the client may be constantly changing.
	One-Time	Variety and the capital necessary for non-recurring expenses are the essentials. Difficult to forecast if a large majority of work is in this category.
	Inherited	Has established track record. Relatively little resources need be expended in comparison with exploring new client groups.
	Developed	Requires rather large amounts of time and money to cultivate. Keeps these skills out of atrophy, leads on to other contacts in related locales or disciplines.
Branch Offices	Geographic Distribution of Work and Offices	Wide geographic base of work (clients and project locations) enables one to partially compromise the effects of regional economic recessions. Availability of communication links (and costs thereof) are the problems to deal with even in domestic locales. Branch offices move part of the people closer to clients or project sites, but institute demands for inter-office communications similar to above
Services	Building Type	While some building types require people with highly specialized technical skills, the issue here is how much specialization the firm can experience without exposing itself to a market that may vanish, or conversely, how little specialization will create a negative or non-existant reputation.
	Process Specialization	Similar to building type specialization. Seem to be valid arguements for saying the money to be made does not exist at the front or back-end of a project. Reputations and emphasis in awards, however, seem to be built through early phases (programming and design).

	Option	Attributes
Continuity	Empire-building	Difficult to find a creative leader who can suddenly become passive enough to teach others and delegate to them the task of operating the firm. Also, the desirability of continuing the firm, and people available to continue the firm must be present. The process is costly and time consuming, demanding as much commitment as the original kingdom-building.

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THE STATE AND REGIONAL CONTEXT

This section presents two contextural surveys within which to view the four case study organizations. The purpose of this context setting is to show (1) the spectrum of architectural firms in the state of Texas and the Houston area (implying the extent of bias these "large" firms represent), and (2) the relative performance of other similar firms across the nation.

Texas Society of Architects/Salary and Benefits Survey

The Texas Society of Architects (TSA) conducted a survey of all member firms (861) in the state of Texas in the fall of 1976. This benchmark will be analyzed and later, be referred to in light of the four case studies. The context is presented in order that the likenesses and deviations between each case study organization and the "norm" might be more fully understood.

The complete questionnaire and survey results (as tabulated by TSA) are contained in Appendix A. For purposes of this research, questions one, two, and three from the survey are of interest. The purposes of these questions are: (1) the determination of legal form, (2) the incidence of branches of offices, (3) the selection of offices within the Houston area, and (4) the size of the firm. Additionally, a cursory cross-tab of size and legal form was extracted from the data.

The seventeen chapter areas (reference Map One-Appendix A) of the state were combined into seven regions for purposes of survey tabulation, due to low response rates from certain areas. The Houston Chapter remained distinct and its fifteen constituant counties are

listed in Appendix A.

Of the 861 firms contacted, 322 or 37.4% responded. In the Houston area, of 308 offices, 101 (or 32.5%) returned the completed questionnaire. With respect to office size, it is worhtwhile to note that there were six offices in Houston[1] (only a part of the Houston Chapter area previously discussed) with a staff greater than forty people (approximately 3% of the total firms in Houston). The fact that this is a lower proportion than that indicated in the TSA survey (Table Three) may imply that the TSA survey, at least for the Houston area, is slightly biased.

Table One shows the responses to question one for the Houston Chapter, all TSA respondents, and results of a national AIA survey conducted in 1973. It must be noted that "private corporation" on the questionnaire denotes the previously defined "closely-held corporation" and "public corporation" refers to "publicly-held corporation". As may be seen from the results and inspection of specific questionnaires, some of the respondents from the Houston Chapter apparently did not understand the "public corporation" category. However, no one outside of this particular chapter checked that response. This latter case is more indicative of the profession within Texas and nationally.

It is interesting to note that there are only slight differences between the various groups in the proprietorship categories, the largest difference being between Houston (42.6%) and the national AIA (33.3%). This difference is accounted for in the next category (partnership) by a reversal of percentages, Houston and TSA 6% lower than the national results. If the inconsistancies of the Houston Chapter responses under "public corporation" are combined with the "private corproation" category, the responses vary less than 2%.

The vast majority of firms of each of the surveys remains unincorporated, although a decreasing plurality is found in proprietorships from surveys taken in 1950 and 1956.[2] The significance in this trend is that

> "as a practical matter, the (larger) business must be incorporated because that is the only method that can bring a larger number of owners and investors together for an extended period of time."[3]

Surely, a logical intermediate step between proprietorship and corporation for professional service firms is the partnership, whereby an increasing number of participants share in the rewards and responsibilities of the organization. Refer to the previous section on ORGANIZATION/LEGAL FORM for a discussion of the characteristics of each type of structure. This middle ground is evidenced by the responses.

Table Two from the TSA survey depicts the fact that the largest proportion of offices (84.4% in Houston Chapter) are of the "one location" variety. As architectural firms increase in size and services, one might expect more organizations to support branch offices. Another factor affecting any change in this topic will be the opening up and expansion of out-of-state firms' branches (witness the case of Skidmore Owings and Merrill's office in Houston increasing its staff). William Caudill[4] stated that he believes the expansion and contraction of architectural branch offices is tied to the economy of the profession, and although no statistical data are available to support this supposition, it seems intuitively correct. The effect of this relationship is that in a good economic cycle, organizations seek and contract for a large amount of work, often located away from the headquarters. In order to serve the clients and build practice in that region, an office may be necessitated. In less robust economic intervals, centralization of people and other resources is

the instinctive (although not necessarily advantageous) approach to minimizing cost-to-income ratios. In Cowgill and Small[5], the surveys of 1950 and 1956 indicated that 80% of the architectural firms surveys had a staff of less than ten people. In the twenty years since the most recent of those surveys, the number has dropped to 70% (Table Three). This does not seem to be a large shift, although it must be remembered that these percentages indicate only numbers of firms, unweighted with respect to the total number of people involved.

From the TSA survey, it was found that approximately 50% of the people (statewide) are employed in firms of fifteen or greater (total staff). This fact accounts for the weighted staff size that Table Three does not indicate.

Thus, the plurality of firms (in both the Houston Chapter and the state) are (1) proprietorships with (2) ten or fewer employees, and (3) only one office location. As the case studies will show, the firms selected for this project all deviate from this profile of architectural practice, although each is peculiar further among the four. This is only a temporal situation though, as the trend over time seems to be toward larger firms, not only to execute large projects, but to continue in practice at all.[6]

Engineering News-Record's "Top 500"

Engineering News-Record, since 1964, has surveyed construction-related design firms in the United States. Among this category are architectural, engineering, and planning organizations and various combinations of these. The result of the survey is a ranking of the "Top 500" according to annual billings (reference Appendix B for definition of annual billings). Of the many items covered in ENR's questionnaire, the data appearing in Appendix

B (arranged for each case study firm over all the years) is reported. Such items as staff size, work by building type, work by breakdown of foreign and domestic are retained in ENR's files. The data is used as supplied by the respondents.

The rank of each firm is important as it indicates the relative success of firms (as measured by billings), and the pattern of growth and decline relative to all other participating organizations over time. Each firm's rank within the particular billing interval for each year (column 5 of each table - Appendix 5) is useful as a measure of its success compared to its own performance in other years. That is to say, if a firm was ranked 450 in 1967 and 1968, it might be judged to have (barely) kept pace with the other firms. However, the firm ranked 450 in 1967 was 37th among 40 in the $900,000-999,999 billing interval (or very near the $900,000 threshold[7]). However, the firm ranked 450 in 1968 was 275th of 281 in the $1.1 million to 2.49 million interval.[8] This would approximate a 22% increase in billables over 1967, definitely outpacing the negating effects of inflation for the period. Thus, when compared to the firm's own record, it would have done quite well. The previous illustration used the appropriate data for firms ranked 450th in 1967 and 1968, although one organization did not hold that rank both years. The top three design firms in 1964 were over the $10 million mark in annual billings, while the largest four companies were above $100 million in annual billings for 1976. The lower threshold has similarly increased from $505,000 in 1964 to $1.9 million in 1976.

This example was used to illustrate two ways information might be used from Appendix B. Caution must be exercised, however, when comparing only two years. Quirks (such as payment scheduling) might be present which are skewing the data. The overall trend of

growth or decline occurring over several years would minimize the probabilities of these quirks having significance.

Summary

The data of interest from the TSA survey are the: (1) legal form of organization (Table One); (2) branch offices (Table Two); and (3) size of firms (Table Three). Each case study will be compared to these three criteria.

With respect to the ENR "Top 500", the following information will be used:

*Year

*Rank

*Type of Firm

*Total Billings Interval

*Rank of Firm within Interval

*Types of Work Firm Engages In

*Incidence of Foreign Work

These points have been extracted for each firm to give a profile of each firm, and some relative sense of these organizations' performances over the past thirteen years.

Table One/Legal Form of Organization

Category	Houston	TSA	AIA
Proprietorship	42.6%	39.4%	38.3%
Partnership	23.8%	23.6%	29.9%
Private Corporation	24.8%	29.8%	30.4%
Public Corporation	5.0%	1.6%	0.5%
Combination Part./Corp.	4.0%	5.6%	N/A

In this question there were zero "no responses" for the Houston Chapter and TSA. Sample sizes were 101 (32.5%) and 322 (37.4%) respectively.

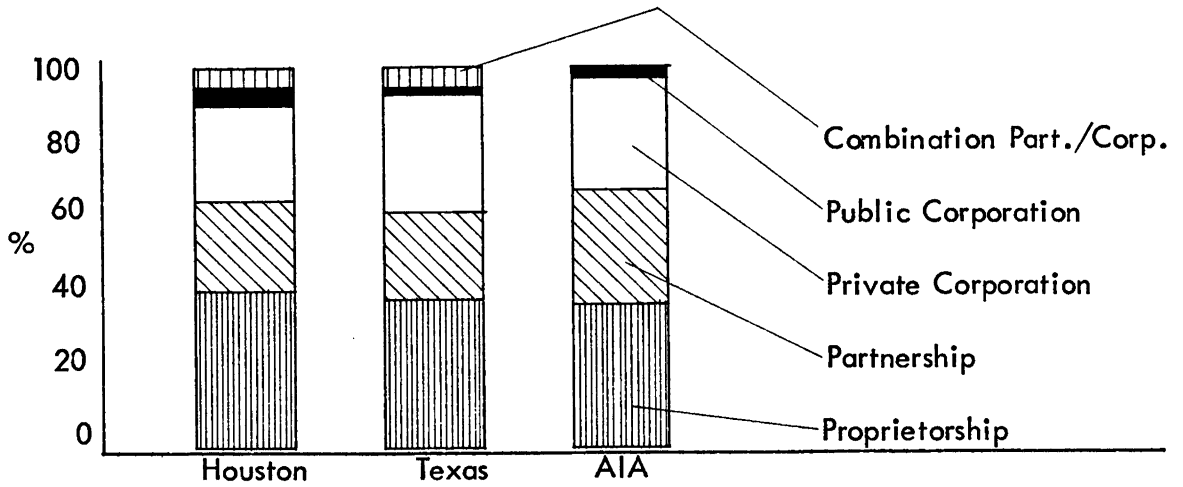


Table Two/Number of Branch Offices

Category	Houston	TSA	AIA
One Office (Hdqtrs)	84.4%	86.2%	N/A
Two or More (Hdqtrs)	13.3%	10.0%	N/A
Branch of in-state firm	1.1%	2.8%	N/A
Branch of out-of-state firm	1.1%	1.0%	N/A

In this question, the responses for both the Houston Chapter and TSA were 90 (29.2%) and 289 (33.6%) respectively.

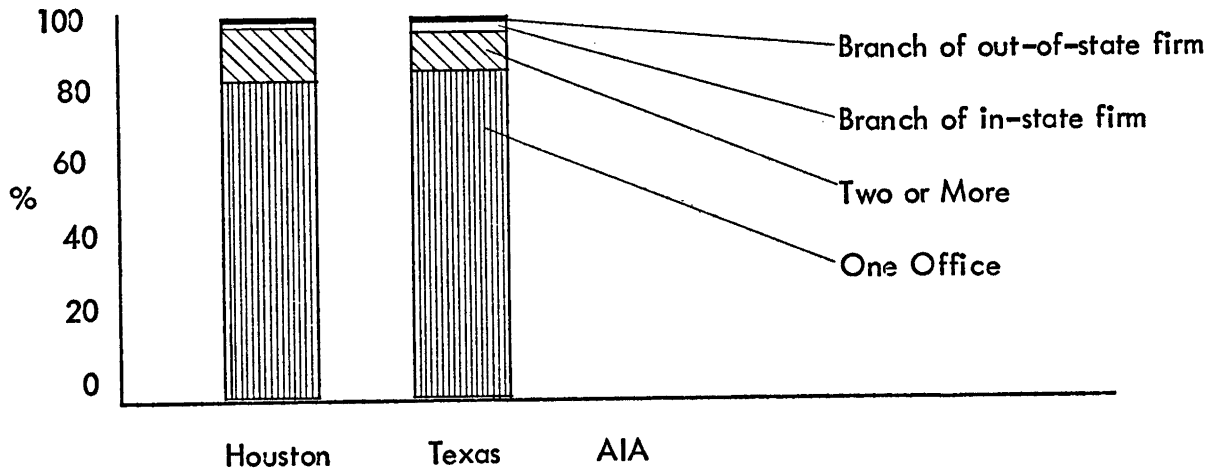
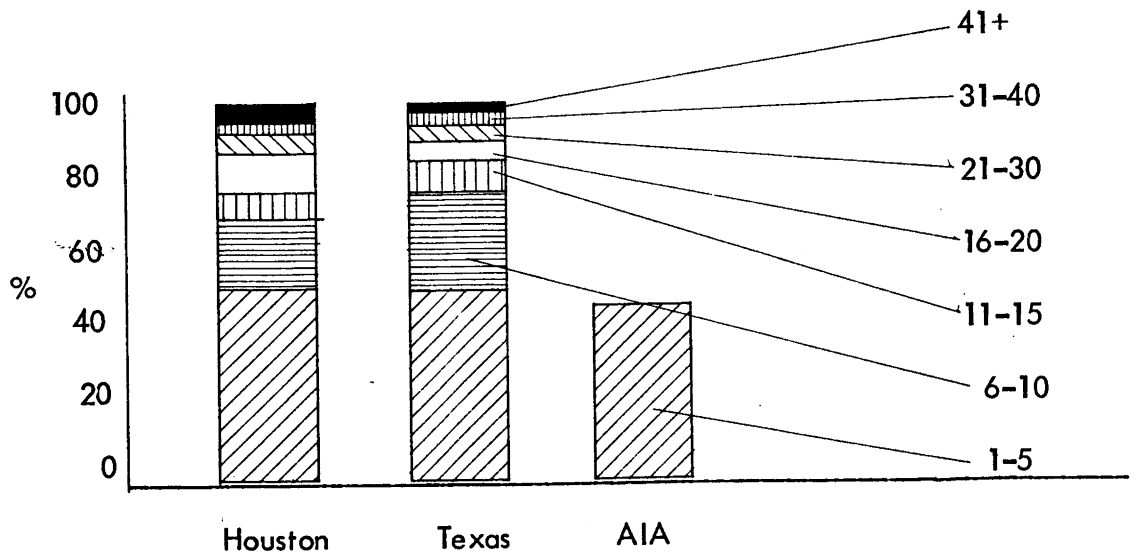


Table Three/Size of Firm (Total Staff)

Category	Houston	TSA	AIA
1-5	51.5%	51.1%	46.4%
6-10	18.2%	26.8%	
11-15	7.1%	7.7%	
16-20	10.1%	5.1%	
21-30	5.1%	4.8%	
31-40	3.0%	1.6%	
41 +	5.1%	2.9%	

In this question responses were 99 (32.1%) and 313 (36.4%) for the Houston Chapter and TSA, respectively.



FOOTNOTES

1. "Ranking Houston's Architectural Firms", Houston Business Journal, 08 March 1976, 12-3.

2. Cowgill, Clinton H. and Small, Ben J. Architectural Practice. New York, Reinhold, 1959.

3. Corley, Robert N. and Robert, William J. Fundamentals of Business Law. Englewood Cliffs, Prentince Hall,-1974. p. 427.

4. Interview with William Caudill, 23 January 1977.

5. Cowgill, Clinton H. and Small, Ben J. op. cit.

6. Foxhall, William B. editor. Techniques of Successful Practice. New York, McGraw-Hill, 1975, p. 2.

7. "Top 500", Engineering News-Record, 23 May 1968, 71.

8. "Top 500", Engineering News-Record, 22 May 1969, 75.

PART TWO - CASE STUDIES

CRS DESIGN ASSOCIATES

Statistics

Staff Size:	700 (270 in CRS)
Total Billings (1976, approximation):	$34 million
ENR Rank:	19
Services:	Architecture; Civil, Structural, Mechanical and Electrical Engineering; Planning; and Construction Management.
Legal Framework:	Publicly-held corporation.
Office Locations (*CRS):	Houston*, New York, Portland, Seattle, Boise Idaho, Milwaukee, Arcadia CA, Rockville MD, Washington, D. C.,Riyadh*.

Historical Overview

On March 1, 1946, William Caudill and John Rowlett founded an architectural firm that has grown to one of the largest practices in the profession. The two men had taught at Texas A & M prior to World War II, and in 1944, they committed themselves to the venture. Caudill, upon returning from military service, went back to A & M and commuted to the Austin office which occupied Rowlett full-time.

Two years later, Wallie Scott and William Pena joined the firm. These former students of Caudill and Rowlett became the third and fourth partners, respectively. Also in 1948, Caudill Rowlett Scott moved its office from Austin to College Station.

These early days were focussed on designing educational facilities, elementary schools first. This portion of the practice "grew-up" with the baby boom's aging children. Junior high schools, senior high schools, colleges and universities ensued. Because the firm was located in a relatively small town, and since they were highly specialized (relative to their contemporaries), the members of the firm traveled extensively to meet with prospective clients. The tradition remains to this day.

In 1952 and 1957, offices were opened in Oklahoma City and Corning, New York, respectively. In the mean time, CRS had grown to forty-two people, including seven partners. The year 1957 was especially important as Tom Bullock assumed leadership of the firm, the move of the main office from Bryan to Houston was conceptualized, and the organization was changed by setting up a corporation within which to practice. The partnership was retained to respond to the profession's dim view of professional corporations and to qualify under some states' statutes regarding corporations.

The move to a corporate structure had four advantages[1] for Caudill Rowlett Scott, Incorporated:

*Tax preferences

*team strengthening through a broader base of ownership

*less distinction between partners and non-partners

*an enforced business manner (record-keeping, etc.)

In 1958, the move to Houston was realized, with CRS suddenly becoming the city's largest architectural (or A & E) firm. The following year, a more centralized "Management Planning Center" was created to bond the three practically self-contained firms (Houston, New York, and Oklahoma).

In the interlude under Bullock, CRS's experience with school boards and trustees led them to a logical extension of services. Health care facilities were given a major emphasis at the national level, and CRS took advantage of its previous record with public boards as clients.

Herb Pasuer took over leadership responsibilities at CRS in 1965. He envisions his role as one who creates the context in which each person can work best. What Caudill has described as the inhaling-exhaling procedure took its next iteration under Paseur.

Computing Research Systems Corporation (CRS2) was set up as a separate entity in 1969, having grown from in-house services to consultants for other professional service firms. By July 1970, this decentralization (or simulated decentralization[2]) had carried over into the architectural practice, where eight divisions (based on building type, discipline, or geographic location) were initiated.

With 240 people in the organization, CRS, Incorporated's board of directors set up a holding company in November of 1970. CRS Design Associates (CRSDA) was to follow Alfred Sloan's (of GM) ideas on "decentralized operations with centralized policy control". CRSDA held CRS, Incorporated and CRS2. Paseur was elected president of CRSDA, and Bullock held the Chairman of the Board position.

While Caudill maintained that people do not "pull rank", this period of CRS's history has been described by O. Jack Mitchell as being similar to the Soviet politburo without a domineering figure such as Stalin. It seemed to be a time when the majority ruled (rather, the majority of the minority called managers). However, if Caudill and Bullock were united on an idea or project, their charisma could usually persuade the other members.

This seems to be a matter of individuals, as some of the people in charge now are operating in a similar framework, although they do not exercise this degree of influence.

In 1971, the Los Angeles office was opened under Paul Kennon (now president of CRS), Tom Hooker, and Truitt Garrison. CRS has also had offices in Chicago, Beirut and Riyadh. That same year, CM Associates (a construction management firm) was constituted as a member of CRSDA, and the umbrella organization switched to a publicly-held apparatus. CRSDA was the first architectural firm to "go public" and of three southwest, publicly-held firms reported in Barron's[3] in 1973, it is the only one that remains publicly-held.

Paseur stated two reasons for the move to broader ownership:

*the ability to conduct work on large-scale and complex projects

*the necessity of competing with conglomerates on these types of projects (especially organizations that were by-products of the space program).

Two reasons for CRSDA's ability to maintain its stock on the public market were its (1) timing and (2) subsequent momentum before the economic slow-down of the early 1970's, according to Paseur. While these aspects cannot be discounted, one might argue that the traits necessary for an architectural organization to compete on the public market were present only in CRSDA.

In 1972 and 1973, respectively, CRSDA acquired A. A. Mathews (a Los Angeles - based, heavy construction engineering firm) and Steven, Thompson, and Runyon (involved in

water resources planning and engineering based in Portland). International firms include CRS Design Associates, A. G. (a Swiss corporation), CM Associates International, and CRS Design Associates (Middle East) S.A.R.L. These instruments facilitate the international work on which CRS (the A & E Firm) and CRSDA depend.

In the ten year period ending with April, 1975, over 90% of CRS's projects (measured in estimated construction value) were located in the United States. However, trends to foreign work started with schools in New Dehli, India and Lima prior to 1966. In work done solo or in association with other architects, for the same ten years, 64% of the volume was in educational facilities. Health and commercial building types followed with 20% and 12% respectively.

In terms of growth, Engineering News-Record's "Top 500" (Appendix B) attests to the consistent upward climb of CRSDA, both with respect to annual billings and relative to other firms. The organization has (since the survey's inception) been involved in virtually all phases of architectural and engineering services.

Present Organization

CRS Design Associates' total billings for 1976, as reported in Engineering News-Record's "Top 500" (Appendix B) was approximately $34 million. The record of the firm's growth over the past thirteen years has never represented a decrease in billables and CRSDA has dropped in rank only three times during the same period. CRS, with 270 of the 700 people in the parent organization, contributed over one-half of the income in 1975.

Herb Paseur, of CRSDA, responded to question of whether Braden's goals should be prioritized by explaining the interwoven qualities of employee development, professional

quality assurance, and client satisfaction. If one of these three fails, the other two, needless to say profit (the interior of the triangle, INTRODUCTION - Figure One), follow.

In 1958, Bullock initiated a ten-year plan for diversified practice. This kind of planning exists today from the scale of the holding company to individual project teams and departments. In the establishment of goals and objectives, participation is often at its peak within CRSDA.

"In some architectural circles (CRS) is considered to be less than professional because of its successful approach to architecture as a business."[4] This reflection by Michael Hough epitomizes the Hunter aspects of CRSDA. The fast-paced, competitive spirit of the firm that has meant success for this organization has also placed them at odds with other professional groups. The amount of change that has taken place in this firm over the past thirty-one years might not be possible in a firm where the atmosphere was any less electrified.

From the earliest days, CRS has been a proponent of the team approach in architecture. Now CRSDA has assembled a "team of teams". The architectural firm (CRS) is still arranged into departments (based, at present, on building-type specialties and geographic regions) as home bases, and some activity occurs within these somewhat functional divisions. However, most projects are assigned to project managers who gather specialists at various stages of the process into intense work sessions. Paseur commented that a problem with the team approach is the ability for a weak specialist to stay on a project longer, without being discovered for the deficiencies. Thus, screening outside the team must occur to insure quality in individuals.

William Caudill, in speaking of control, mentioned the necessity of centralization and decentralization in CRS's and CRSDA's history. Generally, Caudill believes there is a tendency to become more centralized in lean economic intervals and decentralized in more prosperous time. At present, CRSDA holds central control in monitoring, measuring, and reacting to goals and objectives that the subsidiaries (as simulated decentralized units) have established. A few key individuals still exert tremendous power to influence and persuade others, probably as a result of dynamic personalities as much as any other characteristic.

Externally, CRS is probably one of the most participative firms in involving clients in the process, especially in programming. Internally, however, there are some instances of a strong directive approach being taken, especially involving technicians (the least experienced people). Given the Hunter characteristics that predispose them to directive relationships, it seems surprising that participation exists at its present extent.

CRSDA seems to be one of the most flexible firms in the country concerning techniques of the design process and business in general. The firm has expanded and contracted several times, geographically, and responded to emerging markets such as schools, hospitals, and Middle East work. In terms of economic growth, the firm has consistantly expanded in its operations. However, employee turnover seems to be rather high. In some firms this has led to a lack of internal stability. At CRS, there seem to be at least two reasons for people leaving. First, young practitioners view the firm as a graduate school, of sorts, where one can come to learn about the sophisticated approach to problem solving that CRS uses. These people intend to leave after a few years. The other rationale seems to be that some people are not matched to the rapid pace at which the firm operates, and soon

become "burned-out". Whatever the reasons (and there are surely more), the critical point seems to be whether CRS can maintain the almost continual training of new employees and yet maintain continuity across projects (or even a project).

The majority of CRS's clients have been, and continued to be, committees such as school and hospital boards. The firm is attempting to expand into commercial facilities (e.g. - offices, hotels, retail and mixed-use centers). Earlier such crusades seem to have had little success. Thus far, due mostly to the nature of working with smaller school districts, for instance, the work has been one-time commissions with a comparatively low rate of return clients. CRS is at a position now where projects must generally be at least $6 million in construction cost for them to be able to work economically. Believing in what Paul Kennon refers to as the "competitive differential", CRS focuses on large projects that require coordination of complex elements. If this situation is not present, the firm's strengths in the area are of no use, and CRS finds it cannot usually be successful. Thus, these kinds of projects are not usually sought.

CRS, at present in a period of "exhaling", has closed all its offices except ones in Houston and Riyadh. CRSDA and its affiliates have offices in eight other cities, all in the United States. Fifty percent of the architectural (i.e. - CRS) work is in foreign countries (the largest concentration being in Saudi Arabia), with 70% of the future commitments being for work outside the U. S. This reflects the extended lead time necessary for overseas work.

Over the years, CRS has built a record of strength in the early phases of the design process (i.e. - programming and schematic design) and in the marketing activities that necessarily precede. In fact, Caudill commented that CRS is "more process oriented than any firm in

the U. S.", indicating their commitment to adapting techniques and tools developed outside of architecture to suited tasks in the design process.

In the rather typical associations under which CRS and usually a local firm do a project, CRS will assume the responsibility for the front-end activities while both firms are involved to some extent throughout the project's duration. In this way, CRS's expertise in the early phases is emphasized, while the other firm dominates in terms related to the local context.

Almost from inception, CRS (and now CRSDA) has been concerned with the continuity of the firm past Caudill, Rowlett, or Scott's active years. The ownership and management responsibilities have been broadened periodically. Pena stated that all of the organizational "structures are really aimed at the perpetuation of the firm . . ."[5] The leadership has changed from Caudill to Bullock, then to Paseur (now with CRSDA) and on to Kennon at CRS. The policy against nepotism has probably been important in attracting capable young professionals who realize their potentials are not tied to blood lines. Of the four case study firms, CRSDA has seemingly proved its ability to survive individual leaders more fully.

Organizational Criteria Summary

The following matrix is a brief checklist of the organizational criteria and CRS Design Associates' situation.

Critereon	CRS Design Associates
$ Volume	$30 - 35 million
Financial Growth	Continuous growth in billables, 3 declines in 13 years on rank.
Size of Firm	270 in Houston (CRS & DA Hdqtr.); 700 total.
Braden's Goals	All interwoven; one ignored and other two follow in five years.
Legal Form	Publicly-held corporation.
Profiles/Hunter, Shepherd, Farmer	Hunter
Internal Delegation/Function, Team	Team; early proponents of this.
Control/Centralization, Decentralization	Simulated decentralization.
Directive and Participative Approaches	Has appearance of wide participation.
Conflicts of Stability and Flexibility	Flexible, although the fluctuations seem more conservative.
Client Mix	Majority are boards, developed by present CRS generation for one-time service.
Project and Office Location	CRS - Houston, Riyadh. CRSDA & affiliates 10 offices. 50% of work is foreign.
Services/Specialization	Over 50% of $ Volume still comes from CRS. CRS has strength in early design phases; Education facilities.
Continuity/Empire-building	Conscious early of the need. Leadership has already passed two generations.
Goals & Objectives/Clarity, Communication	Goals and objectives are reviewed and altered periodically with people involved.

FOOTNOTES

1. Caudill, William W. Architecture by Team. New York, Van Norstrand Reinhold, 1971. pp. 14-5.

2. Drucker, Peter F. Management/Tasks, Responsibilities and Practices. New York, Harper and Row, 1973. pp. 585-91.

3. Loehwing, David A. "Bargains in Expertise." Barron's Weekly. 05 February 1973. p. 5.

4. "Marketing at CRS", Professional Services Management Journal, July 1976. p. 5.

5. Meyer, Larry and Maupin, Janice, editors. Caudill Rowlett Scott - Vanguard in Architecture. Austin, Univ. of Texas, 1973. p. 90.

3/D INTERNATIONAL

Statistics

Staff Size (1976):	520 (125-150 in Houston Architectural practice.
Total Billings (1976, approximation):	$20 million
ENR Rank:	38
Services:	Architecture; Civil, Mechanical, and Electrical Engineering; Planning; Construction Management.
Legal Framework:	Closely-held corporation.
Office Locations:	Houston, Austin, New York, Riyadh, Abu Dhabi, Dubai.

Historical Overview

In 1955, Victor Neuhaus III and Harwood Taylor joined in partnership in Houston. The firm was built upon a reputation for working with commercial developers; bringing projects in on time and within budget, and designing projects that would work for the developer in the long-term (e.g. - efficient and optimum spaces and layouts). This important fact led, early, to the incidence of repeat clients.

The practice expanded and in 1964 was incorporated as Diversified Design Disciplines. The primary reasons for this conversion were: (1) to capitalize on the various tax preferences available only to corporations (reference ORGANIZATION/LEGAL FORM), and (2) in

anticipation of a greatly broadened spectrum of activities. Although this expanded range of services might lead the firm into many related areas of the natural and built environments, the growth to date has been along fairly common avenues of engineering and project management.

In 1972, Diversified Design Disciplines (3D) was converted to a publicly-held corporation. At that time, several professional service organizations[1] were moving to this technique. The goals for this changes were: (1) the desire for a capital base, and (2) the expansion of ownership through preferential stock options to employees.

Brook, Barr, Graeber, and White of Austin joined the 3D organization in 1974. This firm, founded in 1942, was almost the antithesis of N & T at the time. The former's expertise was (and is) in institutional facilities, and its political connections were very strong in Democratic circles. To a somewhat lesser extent, Neuhaus and Taylor's political allies were in the Republican camp.

In the same year, Chenault and Brady and its other engineering affiliates were acquired by 3D. The expansion to international project management (then 3D/International) in Riyadh, Abu Dhabi, and Dubai was opened in direct response to the ever-increasing amount of Middle East work.

The economic recession of this time period, coupled with the unrealized goal of broader ownership of 3D, led to the reversion of the corporation to closely-held status in 1975. While timing for "going-public" proved crucial, the other ingredient (an agressive performance to compete on the market with other types of publicly-held corporations) seemed to be insufficient.

The number of employees had declined from a high of 300 in 1973, to 250 in December, 1975. In mid-1976, the staff was back to 320, with 125 in the Houston architectural operations.

In April 1977, to reflect the unity of the various branches and avoid confusion about such interrelations, the company was renamed 3D/International (3D/I) with no distinction among branches (such as the former 3D/N & T or 3D/Engineering). The disadvantages of this move are: (1) a loss in credit to the individual operating entities, and (2) the possible losses in changing from names that were associated with respected reputations to a more anonymous title.

The ENR record of 3D/I (Appendix B) reveals a steady growth in dollar volume and rank from 1964 to 1974. However, in 1974 (the year for large corporate expansion) business fell by twenty percent. This may be due to the peculiarities of billing dates and the "Top 500" survey dates, although the next year's record indicates the same recession. Just as surprising, the growth (in dollar volume) in 1976 was almost 100%, from approximately $10 million (1975) to $20 million.

From 3D/I's "Form 251", prepared in December, 1975, approximately 98% of the work for the preceeding ten years was domestic. However, virtually all of the $10 million (construction value) in foreign work occurred between 1973 and 1975. The same source indicates that in the ten year interval, 51% of the work was associated with commercial buildings, while 19% and 15% were associated with educational and health facilities, respectively.

Present Organization

In the spring of 1977, along with its announcement of the new corporate name, 3D/I

predicted an increase in annual billings of 40% over the 1976 performance.[2] What they did not say (but was subsequently reported in ENR's "Top 500" survey) was that billings in 1976 had increased 100% over 1975, up from approximately $10 million to $20 million. If this forecasting bears true, the firm may well be recovered from the disappointing record in 1974 and 1975.

H. Davis Mayfield, director of Business Development at 3D/I, reflected his own priorities in response to Braden's three goals for a professional service organization. Client satisfaction and professional quality of service were felt to be co-equal and primary. Professional development of employees was secondary. To a large extent, this seems characteristic of the collective opinion of the firm transports to some of its employees. This is not to say that the people are ignored or treated with any less dignity and care at 3D/I than at other firms, rather the unavoidable conflicts between these goals are recognized and the necessary priorities have been established.

3D/I, since reverting to its closely-held corporation in 1975, has changed little in terms of the legal organization. The firm has identified eight levels of jobs in the present organization. These range from technician to the chief executive. Five and ten-year master plans for the company are modified annually. A management conference is held twice each year for middle managers (level four) and their superiors, during which the goals and objectives of immediate and long-range nature are discussed. Whether and how these statements are conveyed to the people who may make or break the company (namely, the same people who do not attend the conference) is left largely to these "middle managers".

The majority of the firm's leaders, from information by and about them in various periodicals,

seem to be (almost need to be) "hunters". The style of business that 3D/I conducts is quite different from that of CRS (also known for its "hunter" image). 3D/I seems to have adapted and applied many of the standard procedures used in products business (as differentiated from service organizations). While this method may be less innovative than the almost constant flux found at other firms, the results seem to be acceptable. The external, and to some degree internal, appearance of the firm is one which is not exceptional (good or bad), but is able to play the right moves, be they political, social, or economical.

The firm delegates its work internally according to function. The problem 3D/I has apparently faced with the team approach is returning clients want the same team that worked on the former project. Of course, this may very well be impossible for a variety of reasons. Mayfield also believes the team approach generates a "star system" where a few individuals (rather that the firm at large) are marketed, but not assigned to clients' projects. While this occurrence has been exhibited at certain times in certain organizations, it is not a necessary conclusion (e.g. - Golemon and Rolfe). The hoped-for result is a more anonymous, corporate service in which actors can change, but the end-result (professional service) is generally consistent.

In terms of control, Mayfield described the firm as centralized. With respect to goal formulation and policies, this is largely true. However, in the sphere of operations, the six offices operate under a simulated decentralization.[3] Herein, no branch can truly operate independently, but certain boundaries and expectations are decided upon, then each operating unit is held to its goals as if independent. Functional departments are set up in a similar manner, but both branches and departments are weak with respect to the authority of the executive leadership.

With this hybrid of centralization/decentralization, the policy-setting occurs at some distance (organizationally) from the people who implement the policy. Thus, the people in the "field" participate through decision-thinking in establishing the necessary inputs for goals and objectives determination. This decision-thinking process is almost insured to the fourth or fifth level of management by the executive group. However, much further "down" the organizational heirarchy, the degree of participation depends upon the particular people and situation.

The philosophy that has made 3D/I so strong as a business and dictated the functional delegation of work, has rendered the firm stable internally. The turnover among staff is relatively low compared to other large firms. The external, financial trend of the organization has been less stable (as has been discussed).

The strong tie 3D/I shares with national and international business clients has affected this downturn. While others have had clients based in areas resistant to the recession (e.g. - S. I. Morris Associates and Houston, Texas) or had strong public sector work (e.g. - CRSDA), 3D/I's work has tended to reflect the commerce sector's economy more directly. Approximately fifty to fifty-five percent of the firm's work (measured in construction dollars) is from repeat clients. The ties of N & T with Republican officials and similar relations between Brooks, Barr, Graeber, and White and Democrats has provided the necessary influence to do work on major federal and state facilities.

At a time when many firms (e.g. - CRS) are closing branch offices, 3D/I continues its operations in six cities. 3D/I, early in 1977, did close an office in Dallas, but maintains the Houston and Austin locations in Texas, as well as the international project management center in New York and three offices in the Middle East (Riyadh, Abu Dhabi, and Dubai).

The concentration in the Middle East is also reflected in the fact that 60% of current work (by construction value) is located in the region.

In the firm's Form 251 dated December, 1975, 73% of the "current" construction volume was in commercial facilities. Today, approximately 75% of all work is done under negotiated contract (as opposed to bidding), with construction beginning before final phases of the design service are completed (some sources refer to this as "fast-tracking", compressed-accelerated technique, etc.). The firm offers in-house specialists in architecture, civil engineering, mechanical and electrical engineering, interiors, and project management, according to the ENR "Top 500" survey (Appendix B).

As discussed earlier, the lack of a "star system" has enabled the firm to focus its market on the qualities of the firm in toto. However, for the most part, the founders and first generation leaders are still in control. The degree to which the firm can build continuity is enhanced by the fact that there are many strong leaders within 3D/I to take up the part of any who leave the organization. But the presence of new people to take the place of the leaders (most of whom are in their forties) must be attended to in the next ten years, lest 3D/I, its people, and its clientele be allowed to disappear at the time when the present executives depart.

Organizationl Criteria Summary

The following is a brief checklist of the organizational criteria and 3D/International's situation.

Critereon	3D/International
$ Volume	$20 million
Financial Growth	Continual climb-1964-73. Sporadic since, with 100% increase in billing between 1975 and 1976.
Size of Firm	520 with 125-150 in Houston architectural practice.
Braden's Goals	Client satisfaction and quality of service co-equal, employee development secondary, according to Mayfield.
Legal Form	Closely-held corporation.
Profiles/Hunter, Shepherd, Farmer	Hunter
Internal Delegation/Function, Team	Function.
Control/Centralization, Decentralization	Centralized goal establishment. Some simulated decentralization across departments, but weak as baronies.
Directive and Participative Approaches	Participative to the extent of decision-thinking.
Conflicts of Stability and Flexibility	Stable, very strong ties (philosophically) to architecture as a business.
Client Mix	Individuals (corporations) as majority of clients, 50-55% of billings is from repeat clients, political clout on state and national levels.
Project and Office Location	60% of work in foreign locations (middle East). 6 offices (3 in M.E.).
Services/Specialization	Commercial (73.3%). All phases of process offered in-house (CE, ME, EE, Proj. Mangt, Arch., Interiors).

Critereon	3D/International
Continuity/Empire-building	No "star system", more focus on marketing firm and its qualities. Founders are still much in control, question raised is whether there are two or three to fill the key positions.
Goals & Objectives/Clarity, Communication	Semi-annual meeting of "middle management" 5/10 year master plan, very much like business organizations (e.g. - manufacturing).

FOOTNOTES

1. Loehwing, David A. "Bargains in Expertise". Barron's Weekly. 05 February 1973, p. 5.

2. News release. 3D/I, 15 April 1977.

3. Drucker, Peter F. Management/Tasks, Responsibilities, Practices. New York, Harper and Row, 1973. pp. 585-91.

GOLEMON & ROLFE

Statistics

Staff Size:	65
Total Billings (1976, approximation): -	$3 million
ENR Rank:	303
Services:	Architecture
Legal Framework:	General Partnership (4 Partners) and closely-held corporation
Office Locations:	Houston

Historical Overview

Beaumont, Texas was the location of the architecutral practice Albert Golemon and the late Walter Rolfe founded in 1946. Soon thereafter, recognizing the advantages of practicing in a larger and growing market, Golemon and Rolfe, Architects, moved eighty-six miles to Houston. The partnership's current and sole office was built in 1950.

From inception, G & R has been noted for its strengths in the later phases of the design process (i.e. - design development, construction documents, and construction administration). This seems to have contributed to a number of repeat clients quoted in the company's brochures.

Into the mid-1960's, G & R was known mostly for its work in educational and health facilities. In 1965, in a joint venture with Pierce and Pierce (now Pierce, Goodwin, and

Alexander), work was begun on the Houston Intercontinal Airport. Phases of this project have continued, and at present the third passenger terminal is underway. In spite of recognition in commercial building related activities (e.g. Harry Golemon's edition of Financing Real Estate Development), G & R activities remain regarded as those of "institutional architects".

In 1963, seven years prior to full state recognition of professional corporations, Golemon and Rolfe Associates, Incorporated was established in part to respond to preferential tax treatment of pensions, health insurance programs and other employee benefits. The closely-held corporation's board of directors is selected from among the members of the firm.

At its commencement, G & R Associates, Incorporated's scope of services included preparation of construction documents and construction administration. This setof tasks has expanded (especially since the Texas Attorney General's opinion recognizing professional corporations) to include responsibilities for contracts, project control, marketing and professional liability of the practice. The partnership (now with four general partners) contracts with clients and, in turn, contracts to the corporation for professional services.

According to Engineering News-Record's "Top 500", G & R has always handled only architectural aspects of construction. Tracing the firm's performance over the past thirteen years (Appendix B), one finds the disapperance of G & R between 1969 and 1973. In 1970, a renewed emphasis was placed on building the firm to 1968 activity levels. This effort (primarily vested in more active marketing) showed itself in 1974, when G & R rank near 300, again. It is interesting to note that the firm's rank in 1968 and 1974 was approximately equal, but well above the minimum threshold, while the interving years' performance was insufficient for the "Top 500".

In the ten years prior to 1976, 96% of G & R's projects were located in Texas, 3% in the remaining United States, and 1% foreign work (evidenced in ENR's "Top 500" in 1964, 1965, 1966 and 1968 - Appendix B).

Present Organization

The smallest of the four case study firms, Golemon and Rolfe billed approximately $3 million to clients in 1976, as reported in ENR's "Top 500" survey (Appendix B). The sixty-five person staff (as of March, 1976[1]) comprises the fourth largest Houston architecutral firm.

The hybrid partnership/corporation of the 1960's continues. The corporation is governed by nine directors and a four person executive committee (not necessarily the four partners of G & R, Architects).

This combination of partnership and corporate forms is peculiar among the four case study organizations, although 4% and 5.6% of the TSA survey respondents were in this category for the Houston Chapter and the state, respectively. While the corporation allows many advantages (reference ORGANIZATION/LEGAL FORM) and the partnership contracting with clients maintains the traditional safeguards of professional services,[2] there seem to be two major concerns of the arrangement. First, similar to the AIA's early contentions[3] concerning corporate practice, clients may be somewhat suspicious of the dual-layer apparatus if they do not understand the rationale behind the structure. Clients may see this as an attempt to circumvent professional responsibilities, although this does not seem the intent nor can the combination inhibit liability for professional services. Secondly, some friction may arise within the firm due to the limited positions available in the partnership. Some people may feel the partnership an unnecessary distinction of rank, without realizing

the implicit arguements for the existence of the partnership. Education of both clients and employees in these regards seems to be an important element in the continuing operations of Golemon and Rolfe.

With respect to the goals of professional service organizations espoused by Robert Braden, namely: client satisfaction, quality of work, and employee development, G & R has formulated a list of five "goals" (co-equal) for 1977. Two of these, profit and real growth of the firm (size and financial aspects) may be considered values to which the other three goals respond. The remaining three are: (1) aesthetic and technical excellence of projects, (2) excellence in service to the client, and (3) perpetuation of the firm (which relates more to the combination of new and experienced people, in order that each may benefit from the others vantage point, than to the continuation of the firm which is more of a value from which the goal statements are drawn). These goals are publicized to members of the firm and seem fairly comprehendible. However, the test comes to whether these value and goal statements are translated into operating objectives, and then evaluated based on performance.

Of the four case study organizations, CRSDA is most clearly a "Hunter" firm. However, none seems so clearly inclined toward the "Shepherd" responsibilities as G & R. The employees of Golemon and Rolfe seem to be the object of professional education and development, first, and then are retained if at all possible even in poor economic intervals. This attitude is not all self-sacrificing, as the firm's leaders recognize the investment that has been made in these people, and find it mutually beneficial to build bridges between staff people and "management". This is in marked contrast to some philosophies that dictate the periodic turn-over of a large percentage of people in order to replenish

the supply of "new blood". As has been discussed in ORGANIZATION/OPERATING FORM, although a person or firm has a dominate characteristic (among Hunter, Shepherd, and Farmer), secondary traits exists to suggest at least one of the other options. In this case study, the notion of strength in the later phases of the design process suggests the Farmer, while the aggressive qualities necessary to be a leader or one who markets architecutral services tend toward the Hunter.

The internal organization of G & R, like vitually all large firms, consists of departments. Until recently, the divisions were grouped by building type specialties (e.g. - health, education, commercial). At present, the groups are oriented toward the person's task (marketing, programming, project manager, project architect and designer, and technicians). Beyond divisions, the project is assigned to a project manager who is the clients point source throughout the job. A project designer and project architect (with strengths in later phases of design) participate at various intensities through the project's duration. The team approach follows its traditional lines of bringing specialists together for intense intervals with an emphasis on the total project.

Since the switch from building-type divisions to task groups, there seems to be (inherently) less opportunity for strong sub-divisions or baronies (Jay's terminology[4]) to exist. This is because: (1) few people are together on projects long enough to establish the power clique, and (2) the natural progression from technician, through project designer and architect, on to project manager, and then marketing (in the perception of some employees) tends to keep different people working together. The danger here is a very old problem: one cannot progress to the maximum without going into management and marketing.

The result of this situation is a centralized control of the organization's operations. The exception to this lack of baronies might be the marketing people, although their power could be seen as an extension of the leadership of which they are almost (if not in fact) a part.

As has been discussed with respect to the Shepherd, G & R seems to genuinely attempt to be participatory in terms of getting people's inputs early on in the decision-making process. This is not to say the firm is run by committee or even majority rule, but the solicited interaction is not just a front to disguise predetermined directions and decisions.

The internal stability of the firm, in terms of employee turn-over, has also been discussed in light of the Shepherd profile. However, as was indicated in the review of Golemon and Rolfe's record in and out of the "Top 500" (Appendix B), external stability in terms of economics has seemed to be erratic. Such cycles can occur for a variety of controlable and unalterable events. One example is brought to attention because the firm's response to the slump involved this aspect: when the emphasis is removed from a balance of Braden's goals (employee development, professional quality, and client satisfaction - including client development), the profit (reference Figure One - INTRODUCTION) is illusive. G & R's response, in the early 1970's was to renovate and emphasize the marketing aspect of practice.

In addition to the previously discussed Houston Intercontinental Airport clients, Golemon and Rolfe's clientele tends to be weighted slightly towards public bodies (of the committee bent - reference ORGANIZATION/OPERATING FORM). Repeat commissions from public and private sector clients are very much a part of G & R's portfolio. In a sample listing of projects[5], 33% of them involved such returning business.

The local political savy that has led to many of G & R's contracts has, in part, kept the firm local. This is reflected in the numbers of clients located in Texas (96%) and in foreign countries (1%). The concentration of work in the Houston area is not as great as S. I. Morris Associates', but the extent of statewide work is more substantial. All of the firm's operations are located in the Houston office, and the vast majority of its joint ventures and associations are with organizations located in Houston.

Another aspect related to the client mix of Golemon and Rolfe is the percentage of work in various building types[6]. Sixty percent of the thirty current projects (1975) were in health facilities. This and educational work (13%) usually share the lead, with cyclical airport work taking third place. The work of G & R continues to exhibit strength in later aspects of the design process, with some emphasis of late being given to front-end work such as marketing and programming.

Lastly, the issue of continuity is one which seems to cause some philosophical discussion. On one hand, G & R has been successful in various ways for over thirty years practicing architecture. Conversely, many changing constraints of younger practitioners seem to be pushing Golemon and Rolfe toward wider participation in the firm and its leadership. One indicator of G & R's response to these pressure of past performance and changing concerns of new members may be the handling of the partnership-corporation structure. At present, the partnership accommodates four principals in a firm of sixty-five people. The next generation of leaders will necessarily come from outside this partnership, and may resent the presence of a body closed to their membership. However, the advantages the firm and its participants realize may take the present form or an expanded partnership. In any case, the clientele and experienced people exist to seemingly make this continuity desirable, and the treatment of the legal form will not be necessary and sufficient cause to

spell success or doom to the firm's future, but serves only as an indicator.

Organizational Criteria Summary

The following matrix is a brief checklist of the organizational criteria and Golemon and Rolfe's situation.

Critereon	Golemon and Rolfe
$ Volume	$3 million
Financial Growth	Sporadic, G & R did not make the $1.3 - 1.8 million minimum of ENR "Top 500" 1969-74.
Size of Firm	65
Braden's Goals	G & R has five similar: profit; real growth; aesthetic and technical excellence (projects); service to clients; perpetuation of firm.
Legal Form	Combination closely-held corporation (9 directors, 4 executive committee), and general partnership (4 partners)
Profiles/Hunter, Shepherd, Farmer	Shepherd (making earnest effort at developing and keeping people in firm), w/Marketers as relative Hunters.
Internal Delegation/Function, Team	Team
Control/Centralization, Decentralization	Centralized in executive committee, few baronies.
Directive and Participative Approaches	Participative, a quiet commitment to peo ple involvement.
Conflicts of Stability and Flexibility	One of the most stable in terms of employee turnover, although financial record does not reflect this.
Client Mix	Repeat clients, committees, public work w/some (esp. 1974+) new frontiers. Local political savy.
Project and Office Location	96% of work in Texas, 1% foreign. Houston office only.
Services/Specialization	Health and education, w/some commercial. Strong in later phases of design process, not as sophisticated up front. Architects only, do engineering in-house.

Critereon	Golemon and Rolfe
Continuity/Empire-building	How the present leaders view the present legal combination may determine transfer to new leaders.
Goals & Objectives/Clarity, Communication	See Braden's goals. Communicated, but key is how they are translated to operational objectives.

FOOTNOTES

1. "Ranking Houston's Architectural Firms", Houston Business Journal, 08 March 1976. pp. 12-3.

2. Architect's Handbook of Professional Practice. Chapter Six, AIA, 1971. p. 4.

3. Ibid., p. 5.

4. Jay, Anthony. Management and Machiavelli. New York, Holt, Rinehart, and Winston, 1967.

5. Golemon and Rolfe brochure, 1975.

6. Ibid.

S. I. MORRIS ASSOCIATES

Statistics

Staff Size:	85
Total Billings (1976, approximation):	$5 million
ENR Rank:	169
Services:	Architecture.
Legal Framework:	General Partnership (15 partners).
Office Locations:	Houston, Washington, D. C.

Historical Overview

S. I. Morris began a partnership in 1938 with Wilson (now of Wilson, Crain, Anderson, and Reynolds). Following World War II, the two resumed practice in Houston. Later, Crain and Anderson were added as general partners.

The firm grew to approximately sixty people in 1972, with the four partners controlling the company. The architectural practice was much as S. I. Morris Associates is today (i.e. - emphasis on commercial facilities, private sector clients, geographic location of work, and expertise in the "production" aspects of the design process).

In September of 1972, because Morris felt the need to include younger people in the partnership and little flexibility existed in the framework of Wilson, Morris, Crain and Anderson for such a change, S. I. Morris Associates was formed, with about fifty employees of the former partnership.

Present Organization

S. I. Morris Associates, with approximately five million dollars of billables and a staff of eighty-five people, was ranked third according to size of Houston architectural offices in 1976.[1,2] The difference between this firm and 3D/International (number two) in these respects is drastic. However, S. I. Morris Associates is in a relatively similar category as Golemon and Rolfe with respect to staff size and dollar volume.

When asked to rank Braden's goals for a professional service organization, S. I. Morris stated the need for all three (employee development, quality assurance, and client satisfaction) to be given equal emphasis. A fourth separate, equal, and interrelated goal for such institutions is "community involvement", according to Morris. This means the participation of architects in public service, not necessarily directly related to professional duties. These feelings on community involvement seem to come from a two-fold notion: (1) the architect has a unique contribution to make to the community (and must bear the responsibility), and (2) by becoming associated with such activities, commissions for work from others serving on these boards and committees might be obtained. This is especially appropriate for a firm such as S. I. Morris Associates, which does so much of its work locally, and this particular city where a few people have major influence in the vast majority of work. Thus, it is not just a sacrificial act to become involved, although people who go into these enterprises with the prime notion being what they are going to receive are usually disappointed, or (worse yet) exposed for their selfish motives. Dave Mayfield of 3D/I pointed out that while many architects participate in public service activities, few but Morris seem to have a commitment for such things, and this difference is essential to the (two way) success of the endeavor.

S. I. Morris Associates is a general partnership of sixteen partners with an operating committee of five drawn from this group, representing design, production and interiors departments. The average age of the partners is forty, with Morris (63) the senior. A profit-sharing plan includes these principals and other groups of "associate partners" and "associates", with approximately one-half of the total staff participating.

Although the firm is lead by a small group of "hunters" (reference ORGANIZATION/ OPERATING FORM), the firm's overall reputation tends more toward the "farmer" in that technical and technological abilities are generally well polished. This is reflected in the firm's record as a "production office" (as Morris worded it), doing design development, construction documents, and construction administration. Reputation as a design office has been neglected until recently, and one of the three transitions S. I. Morris Associates is undergoing concerns emphasis in their design capabilities. Contrary to the ENR results (Appendix B), construction management is handled through outside specialists. Likewise, all engineering work is subcontracted to consultants.

In terms of internal delegation, the firm is formed around a team approach. One partner is assigned the responsibility for a project and its continuity across the specialties, as the work draws people from design, production, and interiors departments. Of the total billings for 1976, approximately 20-25% was in interiors work.[3]

Until recently, the firm has been almost totaly equated with S. I. Morris. O. Jack Mitchell of Rice University estimated that Morris was the most influential, single architect in any Texas city. In a three or four year old firm, it might be expected that the principals would market themselves and their personal reputations until such time as the firm developed a

prominence. However, in an organization where the historical record is effectively almost forty years old, such emphasis might be questioned. Nevertheless, a second transition the firm is encountering is one in which Morris is taking a less active role in the firm, the void being filled by the other partners and the executive committee. Thus, while the institution is not decentralized by most estimates, a move toward wider delegation of authority and responsiblity is under way. Perhaps as a result of this former centralization, the firm is regarded as a very "efficient" office (dollar volume per employee).

S. I. Morris Associates is experiencing this transition in leadership from (primarily) Morris to younger partners. As has been discussed, the primary reason for S. I. Morris' departure from Wilson, Morris, Crain, and Anderson was the need for younger professionals to participate more fully in the firm. This was directed toward the eventual withdrawal of Morris from active practice, and the desire to carry the work on after one man's termination. In Jay's terminology, Morris has set about to build an empire.[4] This was begun by expanding the number of partners from four (of Wilson, Morris, Cran and Anderson) to fifteen. Next, the operating committee has been established to conduct the day-to-day business. Of course, the test will be whether the successors will be able to understand and capitalize on the nuances of the present practice as it adapts to a changing context (reference Jay's example of Bismarck's Germany[5]).

One of Jay's points of importance when considering continuity was the idea of clearly communicating goals and objectives from one generation of leaders to the next. To date, there has not been a rigorous process of establishing goals and objectives (nor the rest of the steps discussed in INTRODUCTION: Professional Service Organizations) within the

firm. Morris stated that there has been some consideration and review given to establishing such a procedure, but that any such proposal was still in the preliminary stages.

Because of the continuing degree of centralization, it seems that S. I. Morris Associates tends toward stability in its operation. This is evidenced by the record in ENR's "Top 500" (Appendix B). Although the firm's flexibility has never been tested under pressure, the third transition the firm is experiencing now is a new emphasis on institutional work. It will be interesting to see whether a firm in which 70% of the 1974 work was of the commercial building type[3] (with 15% in health facilities), operating in a locale noted for architects specializing in institutional work, can effectively market its skills in health, education, and public projects.

As is reflected by the amount of activity focussed on commercial buildings, most of the organization's work has been for private-sector clients. Many of these local clients have done numerous projects with the firm and nothing seems to be occurring to alter this continuing service. There is no doubt that some of the clients now doing business with S. I. Morris Associates were associated with his former practice (Wilson, Morris, Crain and Anderson). However, Morris' and other members' continuing involvement in community service has strengthened these alliances and brought in new clients.

The six year old practice has remained relatively consistent with the former practice in respect to distribution of work by building type, location (Houston), and services (architecture, a good portion of that being production, with outside consultants for engineering phases). Eighty-seven percent of the work under way in 1974[3] was located in the Houston SMSA. A branch in Washington, D. C. is insignificant in terms of dollar volume, but does provide a base for that region and some international work.

Organizational Criteria Summary

The following matrix is a brief checklist of the organizational criteria and S. I. Morris Associates' situation.

Critereon	S. I. Morris Associates
$ Volume	$5 million
Financial Growth	Stable for previous four years.
Size of Firm	85
Braden's Goals	All co-equals w/"community involvement."
Legal Form	General Partnership w/15 partners.
Profiles/Hunter, Shepherd, Farmer	Reputation as Farmer, with Hunter leadership.
Internal Delegation/Function, Team	Team
Control/Centralization, Decentralization	Centralized (for a firm of 15 partners).
Directive and Participative Approaches	
Conflicts of Stability and Flexibility	Tending toward stability.
Client Mix	Majority private secotr, "Corporate" clients.
Project and Office Location	87% in Houston SMSA. One small branch in Washington, D. C.
Services/Specialization	Previously commercial buildings (70% of total) and production phases. Now emphasizing design phase and education facilities. Architects only, no engineering in-house. Interiors in-house.
Continuity/Empire-building	Beginning to be structured.
Goals & Objectives/Clarity, Communication	Rigorous process not existant.

FOOTNOTES

1. "Ranking Houston's Architectural Firms", Houston Business Journal, 08 March 1976. p. 12.

2. Appendix B, S. I. Morris Associates.

3. S. I. Morris Associates. Form 251. Houston, 1975. Percentages calculated on estimated construction value.

4. Jay, Anthony. Management and Machiavelli. New York, Holt, Rinehart and Winston, 1967.

5. Ibid. Refer to the discussion of empire-building and Bismarck.

PART THREE - SUMMARY AND CONCLUSIONS

IMPLICATIONS OF EACH FIRM

CRS Design Associates

CRS Design Associates is recognized as one of the most aggressive architectural organizations of present. Witness their ability to maintain a position (perhaps sometimes tenuous) in the public stock market while other professional service firms have reverted to closely-held corporate status. Another testimony to this drive is their advancing position in ENR's "Top 500".

However, this drive and some of its ramifications have led to competition with some of the principal's philosophies toward architectural practice. William Caudill maintains (and rightly so, to this point of view) that "people are first". This must be tempered with the fact that in his book, Architecture by Team, Caudill speaks of many neophytes pulling against the remainder of the organization and its direction, but finally coming around to working toward the same goals as the firm. Now it is possible that these people were resisting a move (implicit or explicit) that they felt was truly detrimentd to their or the firm's welfare. However, they were subordinated to the previous decision; so maybe people are first, after the organization (or previous concensus). Now that the firm (CRS) employs 270 people, the inertia of the status quo would be expected to be even a greater repressive to variance of opinion.

Caudill, in addition to advocating the team approach in the aforementioned book, stated the need for a participative decision-thinking process. While this could be used to good advantage, it seems to be less practiced in terms of daily operations. For example, the project manager who sits down to talk with team members may explain budgets and time

schedules to them (which is surely an improvement over keeping the members ignorant) but may not go the next step in getting their reactions, or to the extreme of coming with a "clean slate" to approach the resource budgeting with employees.

With respect to the firm's continuation, because of the periodic change of people in a variety of key roles, the organization (CRSDA) has a reasonable probability of carrying on after the founders leave. Other results of this role-change are the variety of employee experiences (although perhaps reserved for the select few) and their professional development.

Another area of CRS's experimentation has been the matching of mature people and neophytes, giving the more experienced members infusion of new approaches and techniques, while imparting to the less-experienced some of the learned-by-doing perceptions of past actions. Some of the positions of responsibility have been delegated to individuals less than thirty years old (which is considered young for traditional architectural practice), and the key people seem to show little reluctance in giving members relatively large amounts of responsibility if they are willing to attempt the increased spectrum of authority. The extreme seems to be that people become so involved in the somewhat charismatic magnetism of the firm that they become spent or burned-out early on, realizing the demanding speed of CRS's operations do not match their own needs.

In short, some people find the firm's aggressiveapproach a good fit for their expectations of diverse but specialized experiences, while others see it as too loose and unfocussed. However, while experimentation continues as to specific techniques of operating the firm, the way CRS has chosen to carry out its "people policies" is not likely to change.

The broad divisions of design, technology, and management have representatives on each in-house jury, looking toward the quality of the project in each of these fields having not been compromised in the midst of the team approach (which has attributes of educating each member about the whole, at the expense of each discipline's focus and, hence, quality). The idea here is that while the operating work divisions are somewhat horizontal, there is a vertical overlay of three categories. The disadvantages here are that the three categories are: (1) very broad and (2) somewhat removed from the process of the team's work. Perhaps a better solution would be patterned after the Japanese experience, where each person would be assigned to a senior "counselor" who would facilitate the person's specialized growth and match the individual's goals and objectives to the organization's needs and opportunities.

It is no small concern that in the process of growing, CRS has sacrificed some pioneering in favor of more traditional practices. Repetition of building types and similar projects and/or clients has taken some of the advantages (weaknesses, as well) away from the experimentation of CRS in earlier generations.

One cannot help but realize that a firm in CRS's situations does not always operate as the somewhat idealized organization portrayed in Caudill's Architecture by Team. As has been the experience of each of the four case study firms, conflicts and dilemmas arise which force the company to deviate from the theoretical. The occurrence of these distractions is inevitable, the frequency of such may be the critical problem in a fast-paced firm such as CRS.

3D/International

3D/I seems more determined to handle its projects along segregated divisions (e.g. - programming, design, production, specifications, interiors, construction administration) than to assemble teams from among these specialties. This benefits the quality of the parts, but subjugates the comprehensive understanding of the participants with respect to the total project. While this vertical emphasis is partially compromised by the job's assignment to one project manager, the commitment of people is clearly perceived as belonging to one particular department. This tends to cater to the "farmer" type, who wishes to do his job well and be left alone (which may hamper the interface of his part and the remainder).

3D/I projects by building type lead one to understand, partially, the reputation of timely and cost conscious delivery of commercial buildings (especially investment property) at the expense of extraordinary design quality. This is not to say the firm is without any design ability, but that their priorities align with the technological (as distinct from design) aspects of architecture. The result is that a client often commissions 3D/I as a part of a joint venture or association with other firms have a "design reputation". The concept of offering a broad range of design related services is thus hampered by the reinforcing of the non-design facets.

The firm seems to have imparted or cultivated a reasonable amount of people in positions of varying degrees of responsibilities, although there has been a reluctance to "rotate" the control to the extent of CRS. Thus, while not maintaining iron-clad responsibility for all functions, the top positions have been held by the same people for several years. While establishing continuity, this does little to train others for the inevitable passing of control. This tendency to pay less attention to employee development than client satisfaction and

professional quality of work seems in line to H. David Mayfield's ranking of the latter two as co-equals, with employee development third.

3D/I seems to have adopted more traditional techniques of business developed or adapted in other industries, particularly since 1945. While this inclination has sacrificed the relative reputation for design quality, measurements of technological ability and business success (as well as clients who appreciate this) have been enhanced by the application of techniques from other disciplines.

Golemon and Rolfe

Golemon and Rolfe is seen as a firm which does almost all of its work in Texas (96%; although not as focussed as S. I. Morris Associates) and in completely different area from 3D/I (3D/I having worked with and competed against the other two firms). G & R is respected within the state, especially by institutional groups (e.g. - school boards, hospital foundations, the City of Houston), but little seems to evidence the firm's reputation outside the Southwest in terms of architecture. Harry Golemon has been recognized for various work in national and state professional organizations and editing Financing Real Estate Development. Other than this, there seems to be a clear distinction between this firm and the other three with respect to geographic range of reputation.

G & R stresses in its team approach the continuity offered through one representative, the project manager. Here, it is unusual to find a project with more than one manager throughout a contract period, while in some firms (where turnover of people is higher and project duration slightly longer) the opposite is true. For its engineering work, G & R relies on the services of outside consultants coordinated through the project manager. Although this is strictly handled as separate entities sub-contracting with the

architects, it is not inconceivable that such specialists might be associated more formally with the firm in the future.

The legal framework of Golemon and Rolfe, a combination partnership and closely-held corporation, was not uncommon in the mid-1960's when the corporation was formed. However, that situation has now changed and with it G & R has relegated all duties of the practice to the corporation with the exception of actual contracting with the client, which is still the domain of the partnership. This remaining framework seems redundant and even, perhaps, counter-productive in two respects: (1) only a limited number of people (currently four) are allowed to participate in the partnership and this could be cause for perceived, unnecessary class distinction, and (2) clients aware of the situation but not of the supporting reasons might be suspicious in much the reverse way clients were predicted to react to professional corporations in the early 1960's.

Harry Golemon, as was mentioned earlier, is respected for the contributions he has made to the profession and various civic activities. He seems a competent practitioner from evidence outside this research's realm, and probably capable as a manager, as well. Much of this would apply to others in the firm; Mel Hildebrandt being another example. However, when considering preparation of the firm's next generation of leaders, one must look at the status of potential candidates. Some are marketers and project managers, retaining a variety of titles, but none participate in the partnership (the other two partners being of this same generation of leadership and its predecessor). Five people other than the partners sit on the board of directors of Golemon and Rolfe Associates, Incorporated but only one of these is on the executive committee (charged with day-to-day operation of the corporation).

G & R has an internal reputation for practicing genuine participation in decision-thinking, at least as strong as CRS's external reputation for the same. However, the ways in which the partnership/corporation and continuity are executed must be critical to the firm's short (3-5 years) and long-range future.

S. I. Morris Associates

The firm, S. I. Morris Associates, is regarded as a very efficient organization (i.e. - the ratio of dollar billings to staff size is higher than most comparably sized firms), and probably owes a great deal of this to the directive approach the firm maintains.

As Jay discussed, throughout Management and Machiavelli, the qualifications for someone who has the ability to subjugate his personal goals to those of the continuation of the firm (and there most surely are conflicts between the two sets) are almost the antithesis of the attributes required to get to the leadership position, in the first place. However, S. I. Morris created the new partnership in response to the desire to "build an empire" (in Jay's terminology). The degree to which the transitions to: (1) new leaders, (2) a broader design reputation, and (3) a portfolio expanded to institutional projects are successful will indeed indicate a very different S. I. Morris Associates.

Within the firm, probably two or three people are capable of assuming complete, individual control of the firm. Inevitably, things will be executed differently when another person directs S. I. Morris Associates, but the greatest liability may be that no one, as yet, has the visible reputation of Morris himself.

If the movement to strengthen the design aspect of the firm is to be given utmost priority, it would be advantageous to select a person with a propensity for design (much as CRS

has done in choosing Paul Kennon as its leader). This may necessarily leave the former strengths in "production" in less favorable position at a time (transfer of leadership) when repeat clients need to be reassured of the status quo.

Similarly, expansion into institutional work would be enhanced by a leader with reputation in that spectrum. The greater this person's responsibilities within the firm, the greater will be S. I. Morris Associates leverage in institutional markets. The trade-off remains a somewhat less intense emphasis in "production" and the technological facets of architecture.

The necessity of time (5 years minimum, according to Coxe[1]) make Morris' presence a requisite for another year at least. As long as his health and endurance remain, Morris is not likely to become inactive, although he may not continue the dominant role he has commanded for the last few years.

FOOTNOTES

1. Coxe, Weld. "Transferring Ownership", Professional Services Management Journal, April 1977. pp. 1-2.

SIMILARITIES AND DIFFERENCES AMONG THE FIRMS

While the tendency is to generalize about all big companies (or big labor, big government, ad infinitum), this study has revealed the unique aspects of each group of people viewed under the case studies. Although these firms were initially chosen for some common characteristics (Houston-based; large, at least relative to other architectural practices; reputation for success, based mostly on the "bigness" of quantifiable traits; and the fact that all four organizations were in Engineering News-Record's "Top 500"), it became readily apparent that what makes each different was at least as important as the similarities, when describing the position of each firm in the context of the comtemporary profession.

In the category of size, Caudill Rowlett Scott employ 270 people in its architectural organization (CRS Design Associates totals near 700) while Golemon and Rolfe is at the other end of the spectrum with 65 people in-house. S. I. Morris Associates and 3D/I are in between with 85 and 320 (125 in Houston architectural operations), respectively.

The legal framework is diverse as well. CRS Design Associates is a publicly-held corporation with more than seven companies within, and 3D/International is a closely-held corporation (having ventured into the publicly-held sector a few years ago). S. I. Morris Associates is a general partnership with 15 principals and approximately 45 profit-sharing participants. Golemon and Rolfe is a combination of a partnership and closely-held corporation.

The internal organization varies from a team structure (CRS) to the functional division of tasks (3D/I) although none of the four firms has a pure form of either type. In scope of services, Golemon and Rolfe, and S. I. Morris Associates provide architectural expertise, relying on consultants for engineering disciplines. 3D/I and CRS have in-house capabilities for virtually all phases of the construction-related professional services.

In specialty by building type, a different pairing occurs than in the scope of services. G & R and CRS are directed toward "institutional work" (educational and health care facilities), while S. I. Morris and 3D/I do the vast majority of their projects in commercial buildings (offices are the main sub-category).

In two measures of geographic nature, one again finds uniqueness among one and all organizations. 3D/I does approximately 60% of its work in foreign markets, and CRS projects in foreign locations account for 50% of its construction values. Over 90% of Golemon and Rolfe's work is in Texas, and the most geographically focussed of all is S. I. Morris Associates with 87% of its commissions in the Houston SMSA (Standard Metropolitan Statistical Area; as measured by estimated construction values).

Lastly, in terms of branch offices, 3D/International has operations in six cities, and Caudill Rowlett Scott has had as many as four (with CRS Design Associates offices in more than ten locations). Golemon and Rolfe has one location in Houston, as does S. I. Morris Associates (although the latter has a very small operation in Washington, D. C.).

MAJOR LINKAGES BETWEEN ORGANIZATION AND PRACTICE

Major/Minor Linkages

At the mid-oint of this study, fifteen criteria were selected around which to evaluate the case studies (reference INTRODUCTION). It became apparent that not all of these criteria had the same importance to this researcher at this time. However, four of the criteria (i.e. - internal delegation, control, direction/participation, and continuity) received priority in this work.

In the recent past, issues of team (internal delegation), decentralization (control), and participation have been obscurred by a confusion among the three. Each of these areas has lent its name to topics in the other two categories. The place has been reached where team, decentralization, and participation are thought by some to be an "all or none" proposition. Either a firm is internally organized on the functional basis, at the same time centralized and directive, or the organization is a decentralized, participatory team.

The preliminary discussions on these criteria (reference ORGANIZATION/OPERATING FORM) and the evidence of difference permutations of these categories' options in the case studies point clearly to the distinctions among internal delegation, control, and participative/directive approaches. The previous confusion among these issues, the importance of each to professional service organizations, and the resolution of such mistaken synonymous meanings led to establishing the three criteria as priorities among the field.

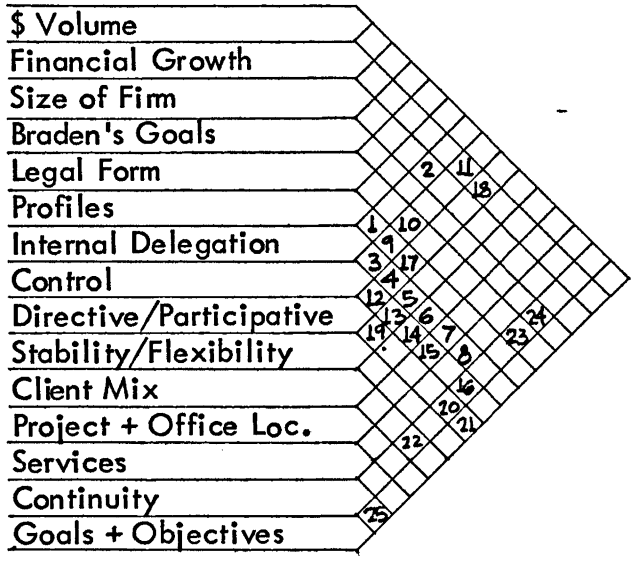
The fourth major critereon is continuity. Up to this time, very few architectural organizations in this country have actually survived a strenuous test of continuity. Many firms (including all four case study organizations) are still in some degree controlled by their founders. CRSDA, which may be least dependent on its initial principals, is led by two people who joined the firm when it was less than six years old.

The difficult test of continuity will come when the present leaders pass the primary authority to a generation of people who did not suffer and enjoy the establishment of the firm, but rather have seen only glimpses of the values and goals that have shaped the present company. One must question how well any organization is (or even can) prepare itself for this kind of perpetuation. Each case study presents a generic set of problems and opportunities on this subject (due in part to the similarities of profession, size, and location) as well as a unique group of strengths and weaknesses regarding continuity. In looking at this critereon's link with the other criteria will further establish the importance of continuity to each firm.

The linkages involving these four criteria (reference the follwoing LINKAGES matrix) comprise the twenty-five major linkages of this study. These linkages immediately follow. The remaining seventeen linkages deal with criteria, neither member belonging to the priority set of four criteria. These latter linkages are discussed in Appendix D - Miscellaneous Linkages Between Organization and Practice.

LINKAGES

Organizational Criteria



Linkages by Critereon

1. Internal Delegation and Profiles. Because of differences in the degrees of interaction and the participants in the interaction, Function and Team seem best suited to different profiles. The Shepherd, striving for a large amount of interaction among people from all disciplines (if this is equated with good personal relations) will see the team approach as beneficial.

The Farmer, conversely, may perceive the Function as offering technical competence of the parts (through reinforcement among individuals within one discipline) and a lower level of interaction across these company divisions. The Hunter seems to be neutral to the options, perhaps relying on secondary tendencies for the bias, as neither Function nor team is inherently better suited to his goals of power.

2. Internal Delegation and Size of Firm. Large firms seem to demand departmentalization as a technique of conveniently sorting people and things (as is the case with all four firms involved herein). However, department and Function are not synonymous. Whether the firm tends toward Function (3D/I and S. I. Morris Associates) or Team (CRSDA and Golemon and Rolfe) is more dependent on items other than the size of the firm. However, the more one depends on the departmental division for association and informational activities, the easier it is to delegate work on a functional basis (while Team oriented firms emphasize individuals as specialists within the total organization).

3. Internal Delegation and Control. Although no "necessary and sufficient" qualification

exists between internal delegation (Function, Team) and control (centralization decentralization), there is a tendency for decentralization and the Team approach to be associated as is the case of CRSDA. Conversely, 3D/I is an extremely centralized firm for its size and uses the functional divisions for work delegation.

4. Internal Delegation and Directive/Participative Approaches. Bass and Barrett, Appendix C (Table 5), indicate that high "interaction potential, group size, worker connectivity, and worker proxemity" suggest the participative approach. This phrase seems to describe the Team quite well. As is the case with CRSDA and Golemon and Rolfe, the incidence of participation and Team should be quite high. Functional delegation and the directive approach are both exhibited in 3D/I.

5. Internal Delegation and Stability/Flexibility. As was discussed in ORGANIZATION/OPERATING FORM, the Team tends to be flexible and stability is a characteristic of the Functional division. The team may only encompass stability if the team leader is a strong, creative person able to maintain balance between the comprehensive nature of the structure and the necessary products or results.

6. Internal Delegation and Client Mix. The Functional approach may be better for returning clients, as the contention 3D/I has with the team approach is partially negated. The 3D/I protest is that returning clients may want the same "team" to do a second project. While this may or may not be advantageous to all concerned, it is often impossible. However, it seems that if the firm's qualifications were expressed (rather than those strengths of individual "stars"), the returning client would be less interested in the particular people on the project, be that in a Function or Team apparatus.

7. Internal Delegation and Project/Office Location. Remote projects and offices may be more easily staffed in a Team context, where the transitory nature of assignments is high (i.e. flexibility). Such is the case of CRSDA. The Function allows for various branches to have different specialties, as is the experience of 3D/I with its Houston and Austin offices doing mostly commercial and institutional work, respectively.

8. Internal Delegation and Service. The Functional approach seems to build the specialties of the firm because of physical proxemity and interchange occurring among the people of a given discipline (process specialty or building-type emphasis). The team sacrifices some of this learning-by-association, to gain the more comprehensive approach to problems.

9. Control and Profiles. Somewhat simplified, the Hunter (desiring power) leans toward centralization or decentralization depending on his particular position in the firm. As the Hunter progress within the organization, he carries with him the desire to centralize control in himself.

One case of the Hunter reverting from his centralization can be seen in S. I. Morris, who is now disbursing control in an attempt at continuity. This change often seems directed at one or all three of the following: (1) discovering who is capable of assuming leadership; (2) helping a group of people progress in the area of leadership, hoping to set up a multi-headed executive; and (3) upon not finding one person capable to assume leadership, control is spread to lead to the most checks-and-balances and (hopefully) the least detriment to the firm.

10. Control and Legal Form. In a proprietorship, control is almost necessarily centralized. While other individuals may be given some responsibility and authority, the proprietor can and usually does exercise the broad decision-making power. After all, this is a major attribute of the form.

The partnership is usually more decentralized, if only because of at least two people (excepted in a two party, limited partnership) have financial and legal responsibilities for the company's actions. S. I. Morris Associates, for example, has fifteen partners and several divisions of responsibility (baronies in Jay's terminology).

In the corporate form, an opportunity for distinction between owners and managers creates the broader delegation of control through these two groups, as well as the intervening board of directors. CRSDA and 3D/I are decentralized to different extents, but both are more decentralized than S. I. Morris Associates.

11. Control and Financial Growth. As Caudill mentioned, it seems that control is more centralized in slow economic periods while the atmosphere of expanding economies propagates decentralization. This has been the case of CRS, whether located in one office or seven. Mayfield, of 3D/I, noted that although that organization usually tends toward centralized control, the period of 1973-1975 brought increased emphasis on consolidation of control. One will remember this as a difficult time for architectural firms in general, and the interval of 3D/I's reversion to a closely-held corporation.

12. Control and Directive/Participative Approaches. Referring to Appendix C (Table 4), a high degree of centralization tends to influence the supervisor toward a directive approach. This trait is exhibited by S. I. Morris Associates. Both CRSDA and Golemon and Rolfe

tend to the opposite, with low levels of centralization and increased participation. 3D/I defies this, being centralized but participative (at least in decision-thinking.)

13. Control and Stability/Flexibility. Centralization tends to be more stable from the standpoint of clearly defined decision-making authority. However, if stability must be derived from high quality research and input from people intimately related to the problem set, then the decentralized form is necessitated. This approach also seems more flexible, as changing constraints are acted upon in the front line, not relying on communication to and from the centralized authority.

14. Control and Client Mix. If control is vested in a politburo (i.e. - primary policy-making and executive committee), these people may understand and better serve a "committee" client. Examples of this controlling body are CRSDA and G & R. The strong leader may more ably relate to the "individual" client, as is the experience of S. I. Morris Associates.

15. Control and Project/Office Location. Centralization may necessarily be compromised by the existence of jobs remote to the headquarters (this compromise being aggravated somewhat by the incidence of branch offices). 3D/I, while leading one to depict a centralized approach, must yield to its branches (and people in the field) some degree of authority, lest operations halt. In this case, according to Jay and Buskirk, Machiavelli recommended training a person in "Rome" (headquarters) prior to sending him to an outpost, thus insuring a more headquarters-conscious decision.

16. Control and Continuity. Centralization lends little to the training of the firm's next generation of leaders, although decentralization does not (of itself) insure proper preparation of the heirs. Expanding on this, the second "level" of participants in a decentralized firm may not be receiving effective training, as such training tasks might be redundant with respect to activities of the current principals. Hence, Jay's insistence on assessing the firm's key points and explicitly communicating these to the next generation.

17. Directive/Participative Approaches and Profiles. The Shepherd, because participation supposedly breeds satsifaction, tends toward the participative approach, even to the extent of forcing Farmers to participate. The Farmer seems to align with direction as this instance usually finds "interference" defined along established lines and broad technical freedom within these limits.

The Hunter is even more strongly associated with direction, as this enables him to exert more absolute control and not share authority or information with others whom he may see as a threat. This mode is also seen as more efficient (especially in the short term), which is one justification for the directive approach in S. I. Morris Associates.

18. Directive/Participative Approaches and Financial Growth. Bass and Barrett (Appendix C - Table 3) maintain through their research a high degree of association between the introduction of direction during recession and participation in prosperity. While CRSDA partially, and each of the other firms even less, support this trend, each firm seems almost inalterably committed to either direction or participation, in response to the myriad determinants of direction/participation.

19. Directive/Participative Approaches and Stability/Flexibility. Bass and Barrett (Appendix C - Table 4) maintain that stability and orderliness as organizational goals are associated with the directive approach, while flexibility and creativity infer the participative approach. CRSDA, probably one of the most innovative service organizations in the past (and one which was suffered from many attempts at innovation), seems to follow the indicators of linking flexibility and participation.

Historically, 3D/I has projected a stable, conservative image with respect to business activities. This and its affinity for direction seem to reinforce the antithesis of the aforementioned link.

20. Directive/Participative Approaches and Continuity. The notion of participation seems best suited to continuity of a firm as (according to Anthony Jay's arguments) the precepts must be continually reiterated among the people assuming future leadership roles. This is exhibited in CRSDA's expanding "politburo" and S. I. Morris Associates' attempts to establish broader control through an expanded partnership.

21. Directive/Participative Approaches and Goals + Objectives. Creativity as a goal (reference G & R's goals), clarity of goals, and communication of goals and objectives are points tied to the participative approach in Appendix C, Table 4. However, S. I. Morris Associates and 3D/I seem to meet these criteria but not be participative. A further need is to establish the firm's goals and objectives (reference the self-control process in INTRODUCTION) through a proposal and feedback mechanism involving those participants affected; the greater degree of participation being associated with a more comprehensive goal set. "Decrees from on high" present a

more concise set of goals, sacrificing scope of the set.

22. Continuity and Client Mix. One of the three prime factors in determining whether a firm is worth the costs of continuity and transition beyond the first generation of principals is the presence of a good client base. Such a clientele should have: (1) a balance between (a) sustaining, rather ordinary work and (b) unique, "exotic" projects; (2) a broad enough base to withstand changes in demands for services (especially with respect to building type); and (3) an ability to attract new clients (in which CRSDA excels) as well as to retain previous customers (as evidenced by G & R and 3D/I.

23. Continuity and Legal Form. The corporation is most conducive to continuity because of its perpetual nature and ability to transfer varying portions of ownership to heirs. However, no assurance of the firm's continuity is made simply through forming a corporation. While the formation may indicate a desire of the present owners to perpetuate the firm, the other two requirements of continuity (i.e., (1) people willing and able to acquire the ownership; and (2) a practice worthy of transfer) must still be met.

Partnerships are not excluded from continuity as may be exhibited by S. I. Morris Associates in the future. Proprietorship and the concept of continuity are virtually exclusive of one another. The three qualifications mentioned above are most important, although the legal form is often an indicator of interest in perpetuation.

24. Continuity and Braden's Goals. Braden's goals enclose the ideal goal (value) of profit, but underlying this is the desire "to stay in business next year."[1] Provided the

three goals are met, one qualification of continuity is insured. Namely, there is a practice worth perpetuating; however, the willingness and capability of buyer and seller may still be lacking. Thus, once again a major stipulation is necessary but not so sufficient as to make continuity a logical conclusion.

25. Continuity and Goals + Objectives. On the subject of goals and objectives, assuming they have been established, a prime consideration may be the communicating of this set and its explicit or implicit values to the next generation of leaders. The impact of this statement may become evident in the firms of S. I. Morris Associates and Golemon and Rolfe in a very few (perhpas five) years.

Anthony Jay's example of Bismarck's successors and their acquiescence concerning many alliances of their European neighbors brings into focus the futility of creating a vast kingdom, only to transfer control to heirs without sufficient provision for continuity of the firm's precepts.

Summation

One can clearly see the opportunity for linkage between internal delegation, control, and directive/participative approaches. However, exceptions are evident in these links as well as almost any other.

The original hypothesis on the existence of linkages between organization and practice seems emphatic. This study has not delved into an exhaustive list of criteria, but rather a set selected for special importance to the context. Neither has the field of observation (four case studies) been broad enough to make statistical inferences. The sample was

intentionally biased (size and location, especially) to eliminate a few characteristics that would further obscure the research.

People. The most important critereon concerning professional service organizations has not been included in discussions of this study although the topic is implicit in all of the criteria. The topic would fill volumes. The cliche' "people make a difference" seems hollow. However, it is the people-intensive, subjective nature of this profession that makes this true.

The qualitative aspects of people (e.g. - competence, enthusiasm, level of commitment) rather than quantities determine the degree of success in this "knowledge work."[2]

FOOTNOTES

1. Undated speech by Robert Braden to the Rice Center interns, Spring 1977.

2. Terminology of Peter Drucker, Management: Tasks, Responsibilities and Practices. New York, Harper and Row, 1973.

APPENDIX A/TSA SURVEY

APPENDIX A/TSA SURVEY

The Texas Society of Architects (TSA) conducted a survey in the fall of 1976 of all member firms. The questionnaire was sent to the chief administrative officer of each TSA member organization (861 firms). The responses tabulated by TSA are contained in the pages following the sample questionnaire.

Map One indicates the chapter areas of TSA by which results were tabulated. The Houston Chapter (zone eight) consists of sixteen counties: Austin, Brazoria, Colorado, Fort Bend, Galveston, Harris, Houston, Liberty, Matagarda, Montgomery, Polk, San Jacinto, Trinity, Walker, Waller, and Wharton.

The response rate from the 961 firms, on a statewide basis was 37.4% (322 responses). Of the 308 member offices in the Houston Chapter area, 101 (or 32.5%) returned the completed survey. Of the statewide member firms, 35.1% are located in the Houston Chapter, and 31.4% of the state responses were from the Houston Chapter.

SALARY AND BENEFIT SURVEY
OF TEXAS ARCHITECTURAL FIRMS
TSA Committee on Practice Management
Fall, 1976

Please return the completed questionnaire to the TSA office in the envelope provided by October 29. Those firms responding to the questionnaire will be sent a copy of the survey results. Your answers will remain completely anonymous. (The return envelope has been numbered only to let us know you have responded so we can send you the survey results. The envelopes will be separated from the questionnaires by the TSA staff prior to processing.)

1. TYPE OF PRACTICE _____Sole Proprietorship _____Partnership _____Private Corporation

_____Public Corporation _____Combination Partnership/Corporation

(Note: one-man office practices need not respond.)

This office is _____headquarters for a firm with no branch offices.
_____headquarters for a firm with one or more branch offices.
_____a brance office of an in-state firm.
_____a branch office of an out-of-state firm.

(Note: Please complete the form based on Texas data only. A separate questionnaire should be completed for each Texas office of a given firm.)

2. LOCATION OF OFFICE City_____ Chapter_____

3. SIZE OF FIRM (Number of full-time employees, including principals:)_____

4. OFFICE HOURS _____ Normal week is 5 days at 8 hours per day.
_____ Normal week varies from above. (Please specify:)_____

---

5. EMPLOYEE BENEFITS

Number of work days per year of: holidays with pay = _____
vacation with pay = _____
sick leave with pay = _____

Health insurance is: _____paid in full.
_____shared. (Please specify:) _____
_____not provided.

AIA dues are: _____paid in full.
_____shared. (Please specify:) _____
_____not paid by the firm.

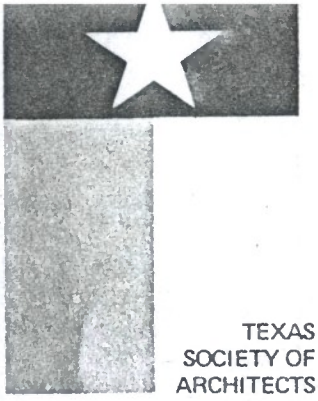
Is a retirement plan provided? _____yes Pension or profit-sharing?_____
_____no

Other benefits: _____

6. ANNUAL SALARY, PROFIT-SHARING AND BONUS INCOME

For each of the following job descriptions that apply to your office, please indicate (1) the number of employees who fit that description, (2) the range of salaries for that description (highest, average, lowest) as gross annual paycheck amount for normal office hours, and (3) the average annual profit-sharing or bonus income. If job description does not apply to your practice, do not complete the category.

No. Employees Fitting Description	Job Description	Highest Salary	Average Salary	Lowest Salary	Average Profit-Sharing/Bonus
____	a. Performs routine drafting or design assistance or other routine office tasks. Experience in architectural office: 1 yr. or less.	____	____	____	____
____	b. Prepares design and/or construction documents. General experience in drafting, design schematics and/or design development. Experience in architectural office: 1-3 yrs.	____	____	____	____
____	c. Prepares design and/or construction documents. Substantial experience in drafting, design schematics and/or design development. Experience in architectural office: more than 3 yrs.	____	____	____	____
____	d. Develops creative design concepts. Substantial experience in architecture, including specific planning and design experience.	____	____	____	____
____	e. Responsible for planning and coordination of a project during development of construction documents under direction of project manager and/or project architect.	____	____	____	____
____	f. Responsible for general field administration of project construction contracts. Substantial experience in architecture and engineering. Specific experience in field construction and administration.	____	____	____	____
____	g. Develops and coordinates architectural interiors. Experienced in drawings and specification of furniture, graphics, carpet, drapery.	____	____	____	____
____	h. Responsible for technical leadership of all phases of projects. Extensive experience in all phases of architecture, including development of construction documents.	____	____	____	____
____	i. Responsible for administrative leadership of all phases of projects. Extensive experience in all phases of architecture, including project management leadership.	____	____	____	____
____	j. Responsible for marketing and new business development.	____	____	____	____
1	k. Responsible for overall management of the architectural practice.	____	____	____	____



TEXAS
SOCIETY OF
ARCHITECTS

Summary of Major Findings

Salary and Benefits Survey of Texas Architectural Firms

TSA Committee on Practice Management

Fall, 1976

800 Perry-Brooks Building Austin, Texas 78701 512-478-7386

Summary of Major Findings

SALARY AND BENEFITS SURVEY OF TEXAS ARCHITECTURAL FIRMS

TSA Committee on Practice Management

Fall, 1976

PURPOSE

The purpose of the survey was to obtain information regarding structure, size, work schedule, benefits and salaries of Texas architectural firms.

PROCEDURES

The two-page survey, accompanied by a memo addressed to the chief administrative officer, was sent to each TSA member firm. The memo requested the firm's participation in the survey in return for anonymity of response and a copy of the survey results.

RESPONSE

Completed questionnaires were returned by 322 firms out of the full list of 861 firms, for a response rate of 37.4%. Though this is a good overall response rate for statistical purposes, there was a low response from certain individual chapters. Therefore, for data analysis, TSA's 17 chapters were combined into the following seven categories: Area 1 - Austin, San Antonio; Area 2 - Brazos, Northeast, Southeast, Waco; Area 3 - Abilene, El Paso, Lubbock, Panhandle, West Texas; Area 4 - Fort Worth, Wichita Falls; Area 5 - Corpus Christi, Lower Rio Grande Valley; Area 6 - Houston; Area 7 - Dallas. In addition, data are provided for the state as a whole.

RESULTS

Survey results are presented in three categories -- Firm Characteristics, Benefits and Salaries.

Firm Characteristics -- Table I shows that many TSA members have not been caught up in the national trend toward larger business and professional organizations -- with its attending advantages and disadvantages. In general, we are still practicing at the same small scale as in the past. Seventy-eight percent of our firms are composed of ten persons or less, while 51% have five persons or less. (The latter figure compares with 46.4% cited in a 1973 national survey conducted by AIA.) Though 51% of our firms could be classified as "small," they do not dominate the profession in Texas; less than 30% of the total of employees work for "small" firms. However, some 50% of all employees work for firms of 15 persons or less.

Regarding the corporate structure of Texas firms, the data reveal that nearly 40% are sole proprietorships. Most others are either private corporations or partnerships, and 86% of the firms have only one office. Following is a breakdown from Table 1 which compares corporate structure of Texas firms with all U.S. firms as presented in the 1973 AIA survey.

	TSA	AIA
Sole proprietor	39.4%	38.3%
Partnership	23.6	29.9
Corporation, private	29.8	30.4
Corporation, public	1.6	0.5
Combination Partnership/Corp.	5.6	(not included)

As for work schedule, 14% of our firms vary in some manner from the norm of eight hours per day, five days per week.

Benefits -- Although it is evident from the survey that the tendency of most firms is to be progressive with their benefits, 5% still provide four or less holidays with pay, 1% no paid vacation, and 12% no sick leave with pay. The annual average number of holidays with pay for Texas firms is 6.1 days, compaired to 7.3 for the national average in 1973. The average vacation period of 10 days per year is the same as the national figure for 1973. Average annual sick leave with pay allotment for Texas firms (disregarding the "no limit" category) is 5.9 days, whereas the national average in 1973 was 11.7 days.

Regarding other benefits, the survey shows that 55% of our firms pay the cost of AIA/TSA dues and 8% share the cost. Approximately 50% maintain a pension or profit-sharing plan and 64% pay or share premiums for some form of health, accident or life insurance.

Salaries -- Survey respondents were asked to specify the high, average, and low annual salary paid in their firm for each applicable category in a range of 11 job descriptions -- from a technician with less than one year of experience through the chief executive officer. It is recognized that clear-cut responses were difficult due to the overlapping of various job descriptions in many firms. And some adjustment has been made in the data tabulation to compensate for obvious discrepancies. (For example, some individual salaries were mistakenly recorded for each category in which the individual held responsibility, rather than only once in the highest category applicable for that employee.) It is felt, however, that the overall results of the salary section of the survey are meaningful, particularly in providing for general regional comparisons.

The responses indicate that the statewide average salary (excluding bonuses) for all job categories is $16,784. This norm was used to compare salary scales in the seven regional areas, revealing that Areas 6 and 7 (Houston and Dallas) are above the TSA norm and the other five are below. (No attempt was made to weight the following figures so as to reflect differences in the cost of living among the seven areas.)

Area 6 (Houston)	+ 7.1%
Area 7 (Dallas)	+ 6.8%
TSA Norm	0
Area 4 (Fort Worth, Wichita Falls)	- 3.6%
Area 5 (Corpus Christi, Lower Rio Grande Valley)	- 9.0%
Area 1 (Austin, San Antonio)	-10.2%
Area 2 (Brazos, Northeast, Southeast, Waco)	-12.4%
Area 3 (Abilene, El Paso, Lubbock, Panhandle, West Texas)	-14.8%

More specific salary comparisons can be made from the data shown in Table II and Figures 1-8, which provide for each job description the salary range and the average low salary in each of the seven areas. (When analyzing these salary figures, it should be remembered that bonus income is not included. It was difficult to make meaningful generalizations from bonus income data obtained in the survey, but it is obvious that many annual incomes are affected dramatically by bonus compensation. Some 53% of all firms give bonuses, the range for which is very broad.)

The survey shows an extreme range in the salary paid to designers, perhaps due to the differences among various firms in the amount of emphasis placed on the design aspect of practice. Also, the survey points out the disheartening fact that the salary of the principal or chief executive officer of many Texas firms is below $20,000 and some are as low as $11,400.

TSA Committee on Practice Management:
Harvey Marmon, 1976 Chairman, San Antonio
Bill Modrall, 1977 Chairman, Houston
Ron Barbutti, San Angelo
Bill Chamblee, Temple
Jim Clutts, Dallas
Harry Golemon, Houston
Bill Martin, Austin

TABLE 1
Structure, size, work-schedule and employee benefits of Texas architectural firms.

	AREA 1 — Austin, San Antonio	AREA 2 — Brazos, N. East, S. East, Waco	AREA 3 — Abilene, Lubbock, W. Tex., Panhandle	AREA 4 — Ft. Worth, Wichita Falls	AREA 5 — Corpus Christi, Lower Rio Grande Valley	AREA 6 — Houston	AREA 7 — Dallas	STATE TOTAL	STATE %
TYPE OF PRACTICE									
Sole Proprietorship	16	13	14	11	8	43	22	127	39
Partnership	9	7	12	5	8	24	11	76	24
Private Corporation	15	5	7	5	6	25	33	96	30
Public Corporation						5		5	1.5
Combination Part/Corp	5			1	3	4	5	18	5.5
TYPE OF OFFICE									
One office	35	18	29	16	18	76	57	249	86
More than one	4	3	3	2	1	12	4	29	10
Branch in-state firm	2				5	1		8	3
Branch out of state firm						1	1	3	1
No reply	4	1	3	4		11	7		
SIZE OF FIRM (All Employees)									
1 - 5	22	12	18	8	13	51	36	160	51
6 - 10	12	10	7	5	8	18	24	84	27
11 - 15	3	1	5	2	2	7	4	24	8
16 - 20	1		1	1	1	10	2	16	5
21 - 30	4	1		2		5	3	15	5
31 - 40			1			3	1	5	1.5
41+	1			1	1	5	1	9	2.5
No reply	2	1	1	3		3			
OFFICE HOURS									
8 Hrs/5 days/week	41	23	27	18	23	87	57	276	86
Other	4	3	5	1	3	15	12	43	14
No reply			2				1		
EMPLOYEE BENEFITS									
HOLIDAY W/PAY/YR									
0 - 4	2	3	3		1	2	4	15	5
5	17	7	8	10	3	15	13	73	25
6	13	8	15	5	10	29	29	109	37
7	5	1	4	2	7	34	9	62	21
8	3	2			1	13	8	27	9
More	3	2	2	2		2		11	3
No reply	2	2	3	4	3			6	8

	AREA 1 — Austin, San Antonio	AREA 2 — Brazos, N. East, S. East, Waco	AREA 3 — Abilene, Lubbock, W. Tx., Panhandle	AREA 4 — Ft. Worth, Wichita Falls	AREA 5 — Corpus Christi, Lower Rio Grande Valley	AREA 6 — Houston	AREA 7 — Dallas	STATE TOTAL	STATE %
VACATION DAYS W/PAY/YR									
0		1				1	2	4	1
5	2	6	1	1	1	9	4	24	8
10	27	8	22	13	16	72	44	202	68
15				1		1	1	3	1
Other	14	8	8	4	6	11	11	62	21
No reply	2	2	2	4	2	7	9		
SICK LEAVE W/PAY/YR									
0	6	4	4	1		11	6	32	12
5	7	7	7	4	7	23	13	68	25
10	7	2	4	1	4	28	13	59	21
15				1					
Other	14	6	9	7	7	22	15	80	29
No limit	4	3	4	2	3	8	11	35	13
No reply	7	6	5	6	3	9	12		
HEALTH INSURANCE									
Paid	13	6	10	6	8	40	31	114	37
Shared	14	6	10	5	7	25	17	84	27
None	17	11	12	7	11	35	16	109	36
No reply	1	2	2	4	1	4	8		
AIA DUES									
Paid	22	12	17	8	18	54	44	175	55
Shared	6	2	1	2	1	7	5	24	8
None	17	9	14	9	7	43	21	120	37
No reply	1	2	2	4		6	6		
RETIREMENT PLAN									
Yes	13	7	7	4	7	22	10	70	24
No	31	16	23	13	18	70	51	222	76
No reply	1	2	3	5		8	9		
PENSION OR PROFIT SHARING									
Yes	18	8	12	8	7	32	29	113	35
No	23	6	8	8	9	38	17	102	32
Other benefits	15	12	11	7	12	42	23	122	38
No reply	9	10	12	5	9	24	24		

JOB DESCRIPTION KEY FOR TABLE II

A. Performs routine drafting or design assistance or other routine office tasks. Experience in architectural office: 1 year or less.

B. Prepares design and/or construction documents. General experience in drafting, design schematics and/or design development. Experience in architectural office: 1-3 years.

C. Prepares design and/or construction documents. Substantial experience in drafting, design schematics and/or design development. Experience in architectural office: more than 3 years.

D. Develops creative design concepts. Substantial experience in architecture, including specific planning and design experience.

E. Responsible for planning and coordination of a project during development of construction documents under direction of project manager and/or project architect.

F. Responsible for general field administration of project construction contracts. Substantial experience in architecture and engineering. Specific experience in field construction and administration.

G. Develops and coordinates architectural interiors. Experienced in drawings and specification of furniture, graphics, carpet, drapery.

H. Responsible for technical leadership of all phases of projects. Extensive experience in all phases of architecture, including development of construction documents.

I. Responsible for administrative leadership of all phases of projects. Extensive experience in all phases of architecture, including project management leadership.

J. Responsible for marketing and new business development.

K. Chief executive officer. Responsible for overall management of the architectural practice.

TABLE II

Salary range and average salaries (excluding bonuses) cited by region for eleven standard job descriptions in Texas Architectural firms.

Figures shown in thousands of dollars.

Job Description	Salary Level	AREA 1 Austin, San Antonio	AREA 2 Brazos, N. East, S. East, Waco	AREA 3 Abilene, Lubbock, W. Tx., Panahndle	AREA 4 Ft. Worth, Wichita Falls	AREA 5 Corpus Christi, LRGV	AREA 6 Houston	AREA 7 Dallas	Statewide Figures
A	Extreme Low	002.9	004.2	001.9	005.1	005.7	005.4	004.6	001.9
	Ave. Low	005.5	005.8	005.6	006.4	007.2	007.7	008.0	006.9
	Average	006.6	006.8	007.1	007.6	008.4	009.0	008.9	008.1
	Ave. High	007.4	007.7	008.4	008.8	009.8	010.4	009.6	009.2
	Extreme High	010.0	013.5	009.6	010.4	012.0	012.5	016.0	013.5
B	Extreme Low	006.8	005.9	004.8	005.9	005.8	008.0	007.0	004.8
	Ave. Low	008.7	008.2	007.8	008.1	008.1	010.1	009.0	009.0
	Average	009.4	009.2	010.0	009.7	009.5	011.2	010.6	010.3
	Ave. High	010.6	010.5	011.8	010.9	010.8	012.1	011.7	011.5
	Extreme High	013.8	011.7	016.3	013.8	014.0	016.6	016.8	016.8
C	Extreme Low	005.7	008.0	006.8	006.2	009.5	006.8	009.6	005.7
	Ave. Low	009.5	011.1	009.7	011.0	010.9	012.8	011.8	011.4
	Average	011.1	013.1	011.4	012.6	013.6	014.3	013.8	013.1
	Ave. High	012.6	015.1	013.0	013.7	016.0	015.4	015.2	014.7
	Extreme High	016.0	024.5	017.7	022.1	024.0	021.6	026.4	026.4
D	Extreme Low	008.4	010.0	008.8	009.6	013.0	008.4	012.0	008.4
	Ave. Low	011.4	010.2	012.3	015.7	014.0	015.4	016.1	014.3
	Average	015.1	013.5	015.1	016.1	019.1	018.9	021.4	018.0
	Ave. High	019.3	015.7	018.8	017.5	025.5	022.5	026.0	021.8
	Extreme High	036.0	018.0	022.0	020.8	028.6	048.0	065.0	065.0
E	Extreme Low	008.8	008.0	008.3	009.6	006.8	008.4	011.0	006.8
	Ave. Low	010.7	009.5	009.9	013.9	008.2	015.5	012.1	012.8
	Average	013.4	014.0	012.1	015.0	011.7	016.6	014.2	014.8
	Ave. High	015.8	015.4	013.7	016.3	013.5	018.0	016.8	016.5
	Extreme High	027.0	018.5	018.0	018.5	018.0	022.0	020.0	027.0
F	Extreme Low	010.0	010.4	007.3	009.0	005.2	008.4	010.0	005.2
	Ave. Low	011.0	012.6	011.5	014.3	007.4	013.9	014.0	012.8
	Average	016.3	015.2	014.4	016.3	011.5	017.7	018.3	016.4
	Ave. High	020.0	018.2	017.7	018.6	013.2	020.5	023.2	019.1
	Extreme High	027.0	020.0	025.0	023.9	014.0	025.5	035.0	035.0

Job Description	Salary Level	AREA 1 Austin, San Antonio	AREA 2 Brazos, N. East, S. East, Waco	AREA 3 Abilene, Lubbock, W. Tx., Panhandle	AREA 4 Ft. Worth, Wichita Falls	AREA 5 Corpus Christi, LRGV	AREA 6 Houston	AREA 7 Dallas	Statewide Figures
G	Extreme Low	007.5	008.0	006.0	008.3	009.4	008.0	008.3	006.0
	Ave. Low	009.7	008.0	007.9	011.5	011.4	012.0	012.4	011.4
	Average	013.1	012.5	009.3	015.2	016.0	016.0	015.0	014.8
	Ave. High	016.2	016.0	010.6	018.9	025.0	021.5	018.3	018.6
	Extreme High	028.6	020.0	010.9	020.8	025.0	039.0	026.4	039.0
H	Extreme Low	008.8	012.0	009.5	009.6	012.0	011.4	011.0	008.8
	Ave. Low	013.8	012.6	014.4	014.9	012.0	018.1	015.3	015.4
	Average	016.4	017.3	017.2	016.5	024.0	021.4	018.5	018.8
	Ave. High	018.9	019.7	019.8	018.6	029.2	024.1	020.8	021.4
	Extreme High	028.6	021.6	022.0	022.1	031.0	048.0	035.0	048.0
I	Extreme Low	010.1	014.5	016.0	015.2	012.5	011.4	013.2	010.1
	Ave. Low	015.1	017.3	020.4	018.7	014.1	020.9	018.9	018.9
	Average	020.5	021.8	024.5	024.1	023.2	026.4	023.7	024.1
	Ave. High	024.0	027.5	027.3	034.5	029.9	031.0	026.7	028.1
	Extreme High	036.4	033.0	040.0	048.8	040.0	060.0	065.0	065.0
J	Extreme Low	015.0	018.0	012.0	020.5	016.0	008.4	012.0	008.4
	Ave. Low	020.1	018.0	015.0	027.2	016.0	019.6	019.0	019.8
	Average	026.3	023.8	019.2	045.2	023.5	029.0	028.0	028.5
	Ave. High	031.3	027.6	022.7	058.7	031.0	035.0	033.0	034.2
	Extreme High	050.0	033.0	025.0	067.6	031.0	085.0	050.0	085.0
K	Extreme Low	013.0	012.0	013.2	015.2	016.0	011.4	012.0	011.4
	Ave. Low								
	Average	026.7	028.8	029.3	041.1	025.2	035.1	032.2	031.8
	Ave. High								
	Extreme High	060.0	040.0	072.0	067.6	040.0	150.0	065.0	150.0

FIGURES 1-8
Salary range and average salaries (excluding bonuses)
by region.

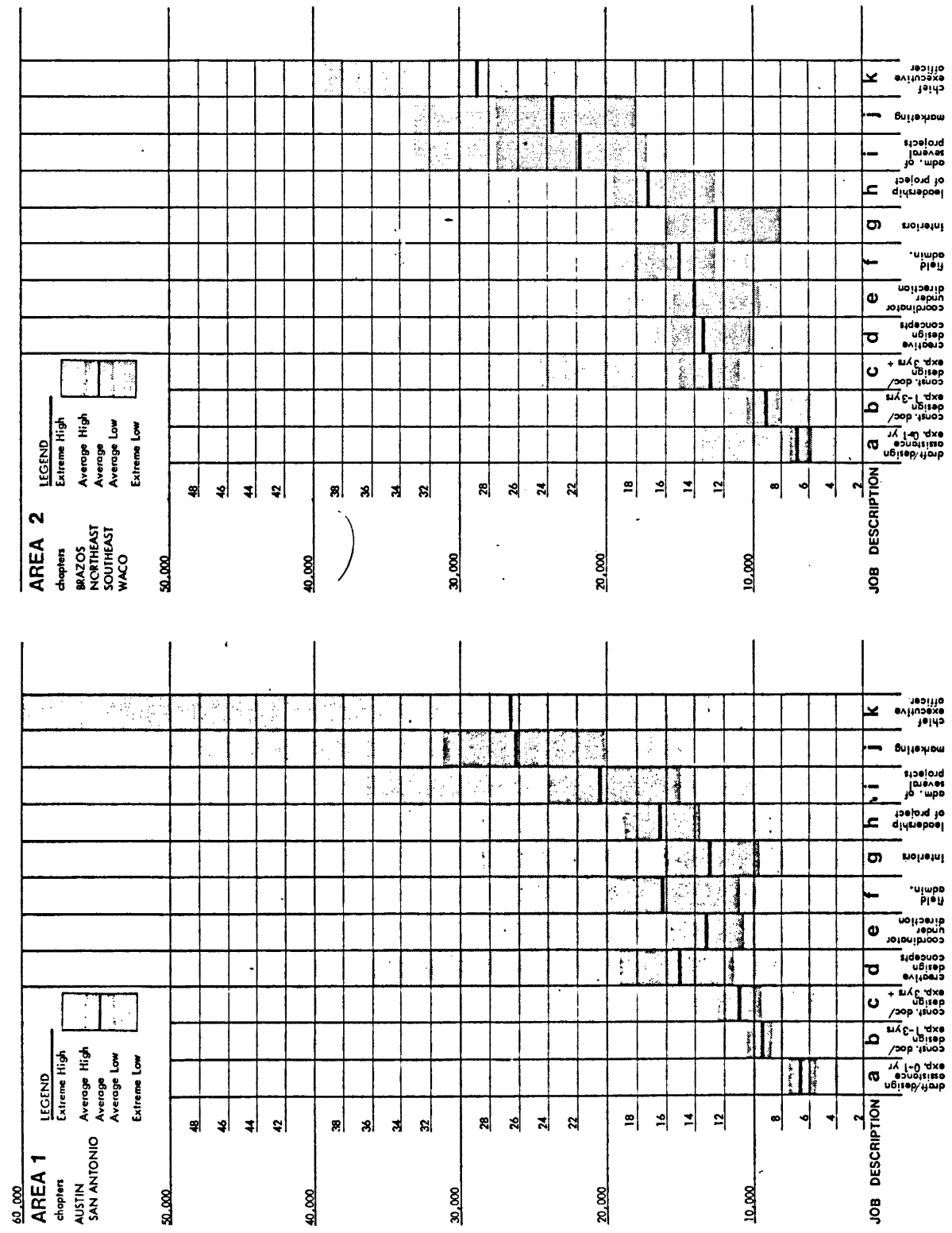
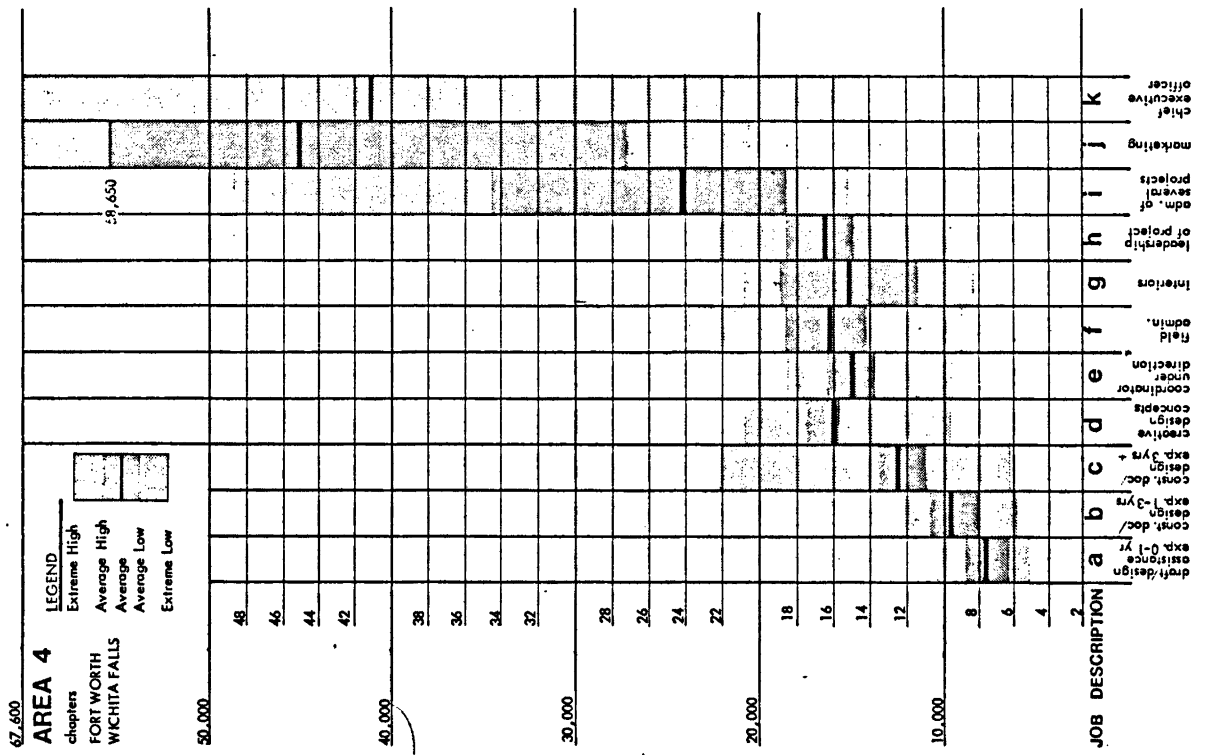


Figure 1

Figure 2



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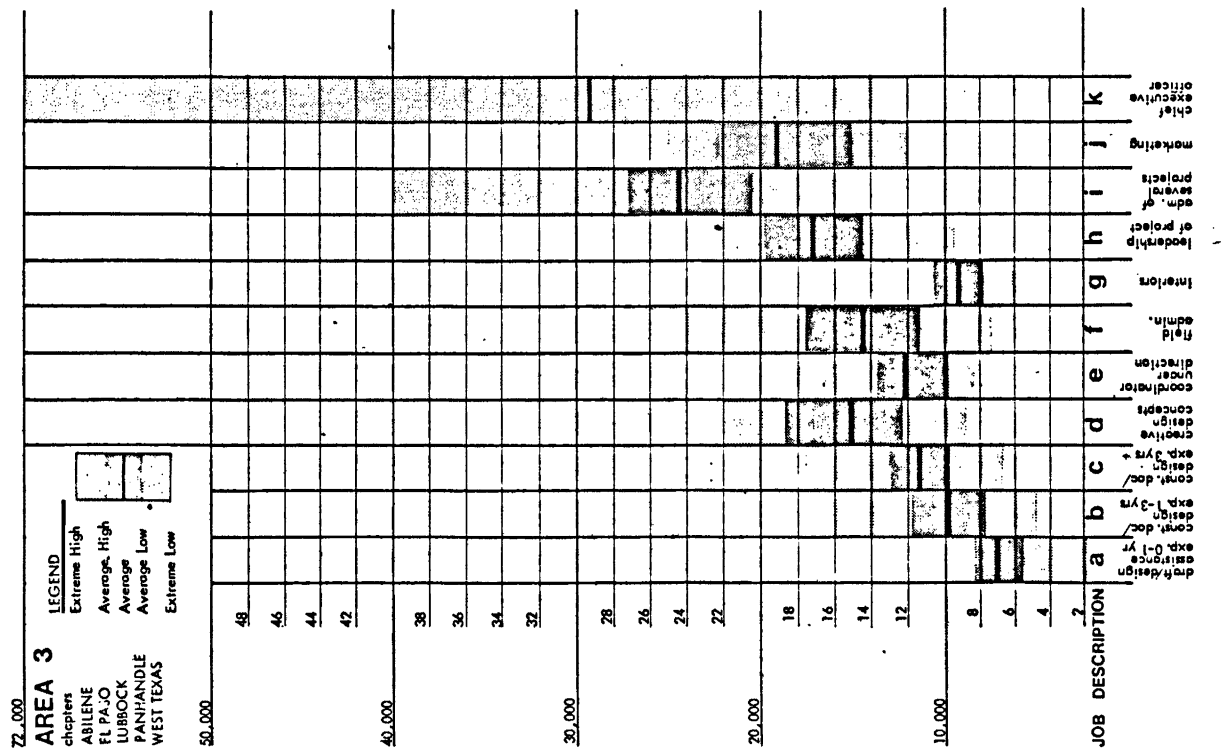

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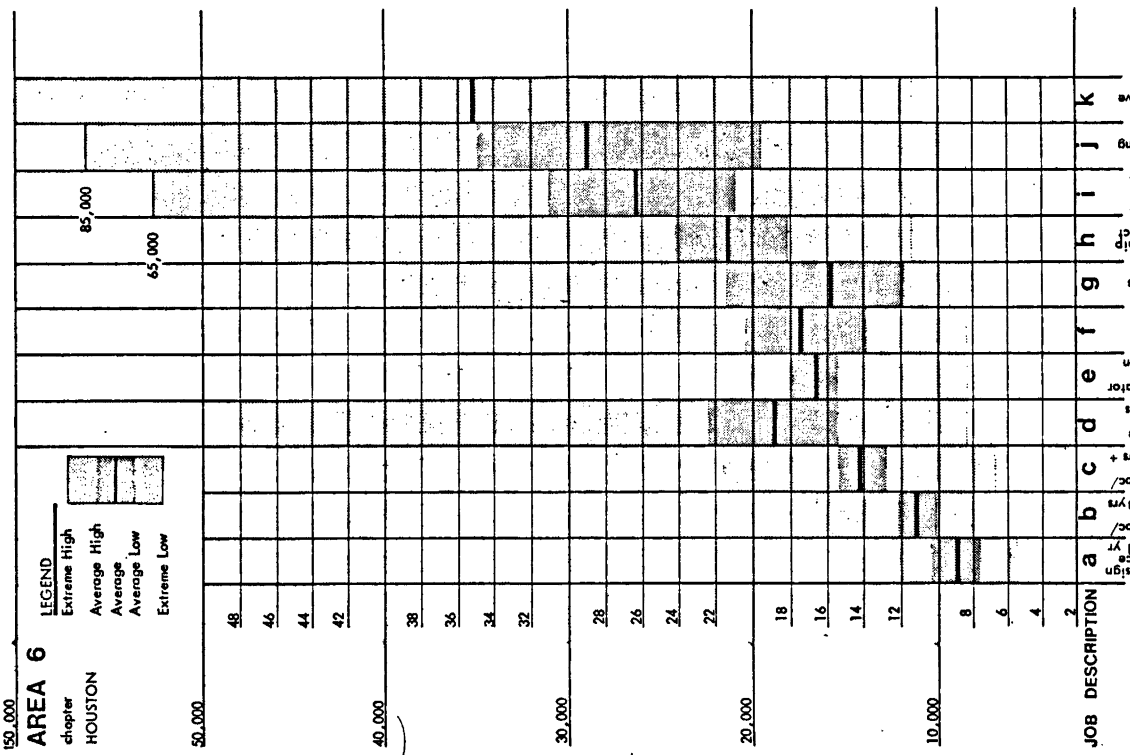

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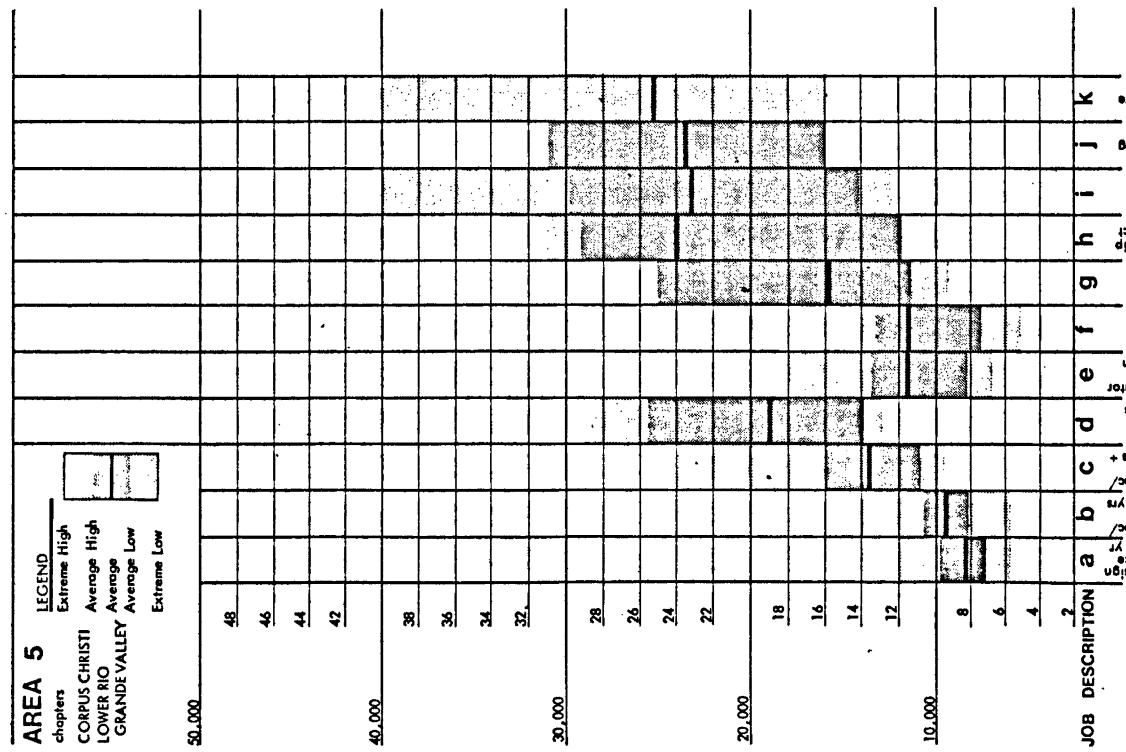
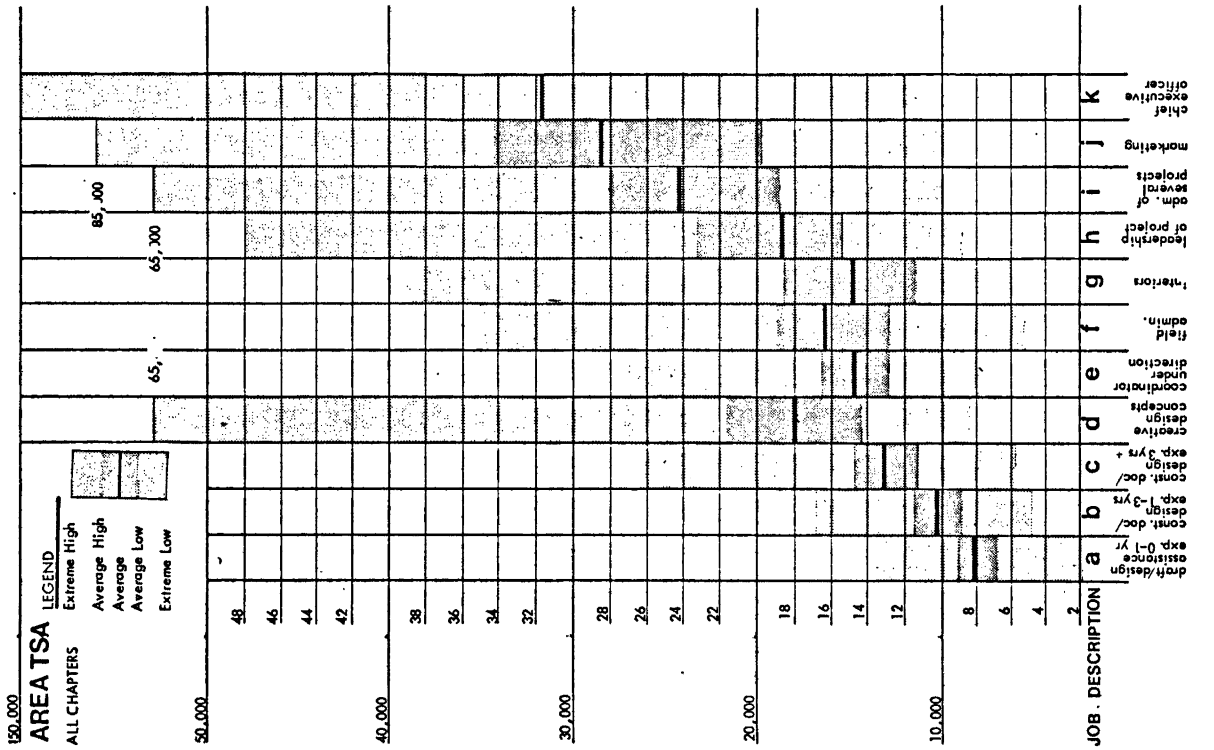


Figure 5



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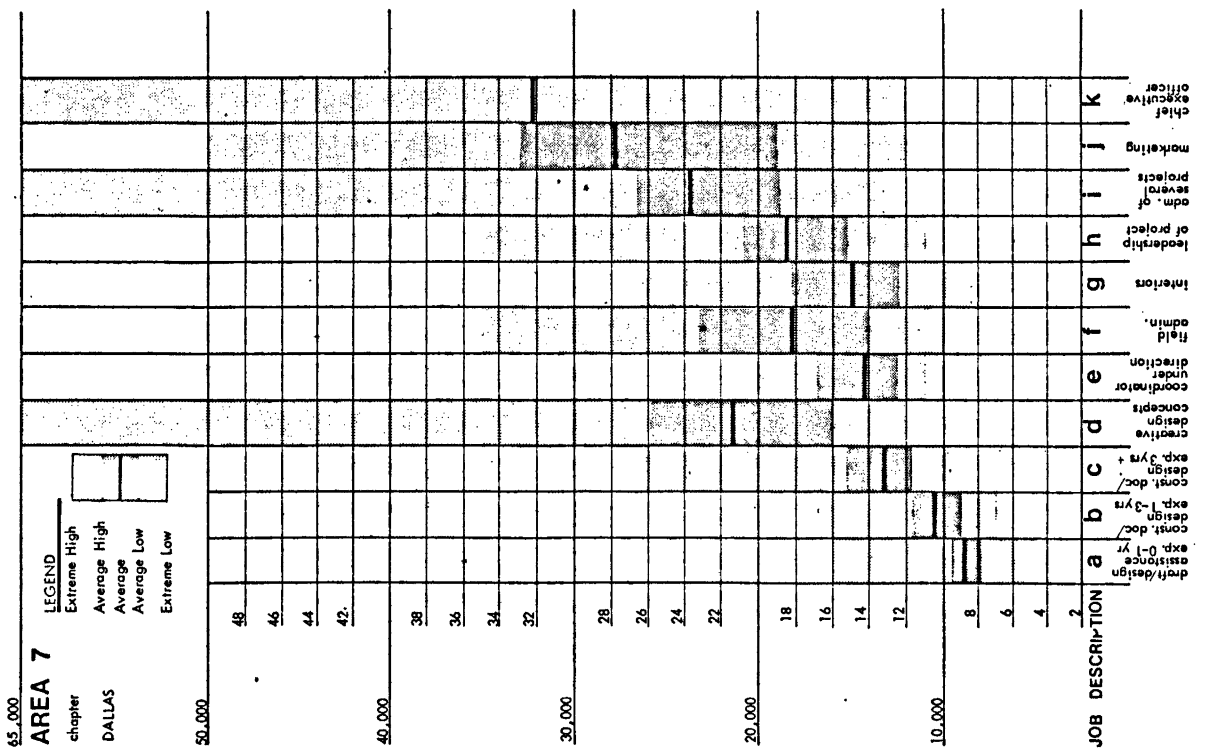
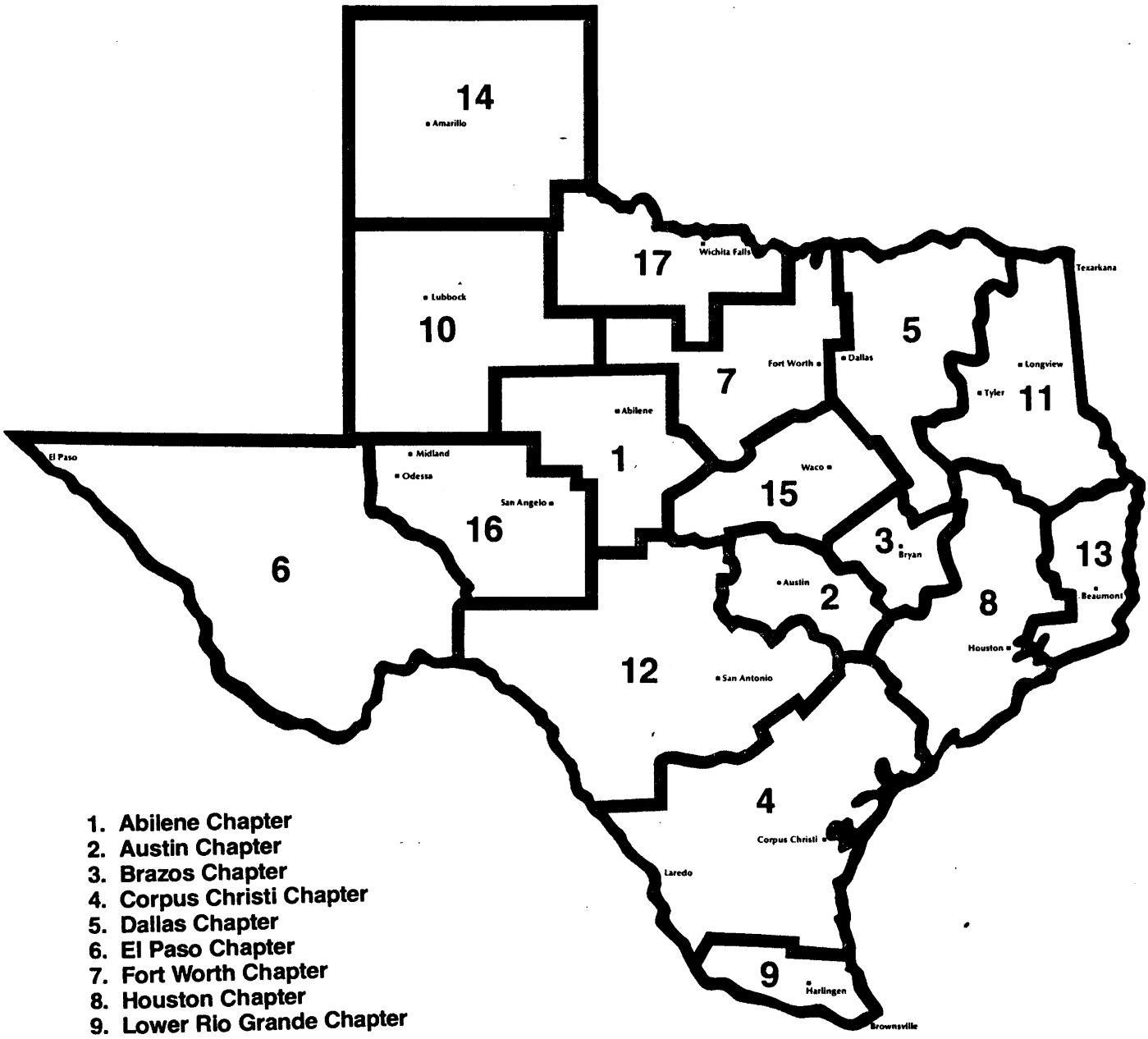


Figure 7



1. Abilene Chapter
2. Austin Chapter
3. Brazos Chapter
4. Corpus Christi Chapter
5. Dallas Chapter
6. El Paso Chapter
7. Fort Worth Chapter
8. Houston Chapter
9. Lower Rio Grande Chapter
10. Lubbock Chapter
11. Northeast Texas Chapter
12. San Antonio Chapter
13. Southeast Texas Chapter
14. Texas Panhandle Chapter
15. Waco Chapter
16. West Texas Chapter
17. Wichita Falls Chapter

Map One / AIA Chapter Areas

APPENDIX B/ENGINEERING NEWS-RECORD'S "TOP 500"

APPENDIX B/ENGINEERING NEWS-RECORD'S "TOP 500"

Engineering News-Record surveys construction-related design firms each year and documents the "Top 500", ranked according to total annual billings (defined by ENR as billings for "professional services related to construction, including fees, reimbursables, staff loans or temporary staff transfers").

The following tables represent pertinent data gathered from the "Top 500" listing for each of the case study organizations, from 1964 (the first year of the survey) to 1976. The "Rank/Total" column in the tables refers to the particular firm's rank among all other firms within that "Total Billings Interval". This ratio gives an approximate idea of whether the organization was in the upper, middle, or lower range of the "Total Billings Interval".

CRS Design Associates (CRSDA)*

Year	Rank	Type**	Total Billings Interval (millions)	Rank/Total # in Billing Interval	Arch	Civil E.	Str. E.	Mech. E.	Elec. E.	City/Area Plans	Work Outside U.S.	CM
1964***	129		$1-2.49	56/147	.	.	.	.	.	.	.	N/A
1965***	98	AE	$2.5-4.9	15/27	.		.	.	.	.	.	N/A
1966***	66	AE	$2.5-4.9	16/72	.		.	.	.	.	.	N/A
1967***	80	AEP	$2.5-4.9	23/80	.		.	.	.	.	.	N/A
1968***	78	AEP	$2.5-4.9	7/104	.	.	.	.	.	.	.	N/A
1969***	73	AEP	$5-7.49	21/33	.	.	.	.	.	.	.	N/A
1970	62	AEP	$7.5-9.9	20/20	.	.	.	.	.	.	.	N/A
1971	52	AE	$7.5-9.9	5/16	.	.	.	.	.	.	.	
1972	34	AE	$10-14.9	6/23	.	.	.	.	.	.	.	.
1973	25	AE	$20-24.9	6/8	.	.	.	.	.	.	.	.
1974	27	AEP	$20-24.9	1/10	.	.	.	.	.	.	.	.
1975	18	AEP	$25-34.9	4/16	.	.	.	.	.	.	.	.
1976	19	AE	$25-34.9	3/16	.	.	.	.	.	.	.	.

Notes:

* Source - Engineering News-Record, "Top 500".

** A = Architect; AE = Architect-Engr.; E = Consulting Engr.; EA = Engr. Architect; P = Planner. Companies classified themselves.

*** Caudill Rowlett Scott

3D/ International*

Year	Rank	Type**	Total Billings Interval (millions)	Rank/Total # in Billing Interval	Arch	Civil E.	Str. E.	Mech. E.	Elec. E.	City/Area Plans	Work Outside U. S.	CM
1964	Not Ranked											N/A
1965***	445	A	$700-999K	147/156	.					.		N/A
1966***	367	A	$700-999K	33/121	.					.	.	N/A
1967***	348	A	$1-2.49	211/276	.					.	.	N/A
1968***	341	A	$1.1-2.49	166/281	.					.	.	N/A
1969***	262	A	$1.2-2.49	53/251	.						.	N/A
1970***	187	A	$2.5-4.9	99/148	.					.	.	N/A
1971***	106	A	$2.5-4.9	10/148	.					.	.	.
1972	76	AE	$5-7.49	5/35	.		.	.	.	.	.	.
1973	59	AE	$7.5-9.9	1/20	.		.	.	.	.	.	.
1974	90	AE	$7.5-9.9	20/29	.			.	.		.	.
1975	72	AE	$10-14.9	25/28	.			.	.		.	.
1976	38	AE	$20-24.9	6/7	.	.		.	.	.	.	.

Notes:

* Source - Engineering News-Record; "Top 500".

** A = Architect; AE = Architect-Engr.; E= Consulting Engr.; EA = Engr.-Architect; P = Planner. Companies classified themselves.

*** Neuhaus & Taylor

Golemon & Rolfe (G & R)*

Year	Rank	Type**	Total Billings Interval (millions)	Rank/Total # in Billing Interval	Arch.	Civil E.	Str. E.	Mech. E.	Elec. E.	City/Area Plans	Work Outside U. S.	CM
1964	186		$1-2.49-	113/147	.					.		N/A
1965	270	A	$1-2.49	160/188	.					.		N/A
1966	289	A	$1-2.49	167/212	.					.		N/A
1967	314	A	$1-2.49	177/276	.							N/A
1968	308	A	$1.1-2.49	133/281	.					.		N/A
1969	Not Ranked											N/A
1970	Not Ranked											N/A
1971	Not Ranked											
1972	Not Ranked											
1973	Not Ranked											
1974	319	A	$2.5-4.9	161/172	.							
1975	299	A	$2.5-4.9	127/165	.							
1976	303	A	$2.5-4.9	134/194	.							

Notes:

* Source - Engineering News Record; "Top 500".

** A = Architect; AE = Architect-Engr.; E = Consulting Engr.; EA = Engr. Architect; P = Planner. Companies classified themselves.

S. I. Morris Associates*

Year	Rank	Type**	Total Billings Interval (millions)	Rank/Total # in Billing Interval	Arch	Civil E.	Str. E.	Mech. E.	Elec. E.	City/Area Plans	Work Outside U.S.	CM
1964***	298		$700-999K	78/101	.							N/A
1965***	242	A	$1-2.49	132/188	.	.	.	.	.			N/A
1966***	180	A	$1-2.49	58/212	.		.	.	.	.		N/A
1967***	Not Ranked											N/A
1968***	434	A	$1.1-2.49	259/281	.					.	.	N/A
1969***	247	A	$1.2-2.49	38/251	.					.		N/A
1970***	199	A	$2.5-4.9	111/148	.							N/A
1971***	227	A	$2.5-4.9	131/148	.							
1972***	263	A	$2.5-4.9	157/157	.						.	.
1973	159	A	$2.5-4.9	32/174	.							
1974	156	A	$5-7.49	57/59	.						.	
1975	168	A	$5-7.49	70/74	.						.	
1976	169	A	$5-7.49	61/61	.						.	

Notes:

* Source - Engineering News-Record; "Top 500".

** A = Architect; AE = Architect-Engr.; E = Consulting Engr.; EA = Engr.-Architect; P = Planner. Companies classified themselves.

*** Wilson, Morris, Crain & Anderson.

APPENDIX C/CHARACTERISTICS OF PARTICIPATIVE AND DIRECTIVE APPROACHES

APPENDIX C/CHARACTERISTICS OF PARTICIPATIVE AND DIRECTIVE APPROACHES

The following five tables are taken from Man, Work and Organization by Bass and Barrett. These charactertistics influence the decision concerning which approach (directive or participative) is most likely to be used. It should be noted that the observations and experiences that formed the basis for these tables are culture and time-bound.

First, the particular cultural context (mentioned in Tables One and Two) very strongly dictates certain boundaries on the options. Mitigating this cultural tie is the tendency toward multi-national corporations and the proliferation of organizational knowledge.

The broad range of variables (and each variable's wide spectrum) introduced in this series neither defines the actual nor (much less) the "best" approach to be found in every particular case, but the tendency for these contexts to be associated with the directive or participative approach. Another problem is the case in which some of the attributes would indicate one technique while other characteristics tend toward the opposite. However, in spite of these warnings, the series does serve to set a useful guide of expectations.

TABLE 1 TENDENCY OF A SUPERVISOR TO BE DIRECTIVE OR PARTICIPATIVE RELATED TO HIS OWN ATTRIBUTES

	Attributes of a Supervisor	If He Is as Below, Then a Supervisor Tends to Be: Directive	Participative
1.	Interpersonal attributes:		
	Valued and liked, identified with, acknowledged as expert, rewarding figure.	Very much or very little esteem	Moderate esteem
2.	Personal attributes:		
	a. Social ideology: authoritarian or equalitarian; theory X or theory Y	Authoritarian, theory X	Equalitarian, theory Y
	b. Attitudes toward own capabilities	High self-esteem, self-confidence	Low self-esteem, self-confidence
	c. Attitudes toward subordinate's capabilities		
	(1) Capabilities	Do Not Value	Value highly
	(2) Ideas	Uninterested	Interested
	d. Specific beliefs about effects of management style		
	(1) Participation promotes morale	No	Yes
	(2) Participation promotes productivity	No	Yes
	(3) Supervisors are rewarded for directiveness	Yes	No
	(4) Legitimacy of directiveness	Legitimate	Illegitimate
3.	Culture	North European, Greek, Indian	U.S., U.K., Latin
4.	Training	Pattern A	Pattern B
5.	Status attributes:		
	a. Importance of position, legitimacy of position, position of control and power	Very much or very little status	Moderate status

	Attributes of a Supervisor	If He Is as Below, Then a Supervisor Tends to Be: Directive	Participative
	b. Centrality of information	Central	Peripheral
	c. Span of control	Large	Small
6.	Personal objectives:		
	a. Time perspective	Short-term	Long-term
	b. Esteem sought	To be valued	To be liked
	c. Desired source of esteem	Superiors	Subordinates
7.	Job objectives	Output quantity (avoidance of risk and uncertainty); orderliness	Creativity; morale; flexibility; understanding of subordinates; development of subordinates

TABLE 2 TENDENCY OF A SUPERVISOR TO BE DIRECTIVE OR PARTICIPATIVE RELATED TO ATTRIBUTES OF HIS SUBORDINATES

	Attributes of His Subordinates	If Subordinates Are as Below, Then a Supervisor Tends to Be: Directive	Participative
1.	Intragroup relations:		
	Shared norms, purposes, interests; cohesion, absence of conflict, homogeneity of attitudes	Very high or very low cohesion	Moderate cohesion
2.	Personal and interpersonal attributes:		
	a. Level of skill and knowledge; esteem	Low	High
	b. Authoritarian vs. equalitarian	Authoritarian	Equalitarian
	c. Acceptance of participation as legitimate for subordinate	No	Yes
	d. Differential motivations	Requires nurturing; responsive to reward and punishment; prefers order, principle	Need to belong; need for information; need for understanding
	e. Independence needs	Weak	Strong
3.	Culture, tradition	Greek	Dutch-Flemish
4.	Training	Pattern A	Pattern B
5.	Job attributes:		
	a. Importance of position	Low status	High status
	b. Centrality to information	Peripheral	Central
6.	Personal objectives:		
	a. Time perspective	Short-run	Long-run

	Attributes of His Subordinates	If Subordinates Are as Below, Then a Supervisor Tends to Be: Directive	Participative
	b. Esteem sought	To be liked	To be valued
	c. Desired source of esteem	Superior	Peers
7.	Task objectives	Low risk and uncertainty; low involvement; uninterested	Creativity; personal growth; satisfaction; involvement; interested

TABLE 3 TENDENCY OF A SUPERVISOR TO BE DIRECTIVE OR PARTICIPATIVE RELATED TO THE ENVIRONMENT OUTSIDE HIS ORGANIZATION: MARKET PLACE, COMMUNITY, CLIENTS.

	Attributes of Outside Environment	If the Outside Environment is as Below, Then a Supervisor Tends to Be: Directive	Participative
1.	Stable or changing market place	Stable	Turbulent
2.	Current economic situation	Recession	Prosperity
3.	Culture; client attitudes, expectations	Traditional	Post-industrial

TABLE 4 TENDENCY OF A SUPERVISOR TO BE DIRECTIVE OR PARTICIPATIVE RELATED TO THE ORGANIZATIONAL CLIMATE OUTSIDE IMMEDIATE WORK GROUP.

Attributes of the Organizational Climate		If the Organizational Climate Is as Below, Then a Supervisor Tends to Be: Directive	Participative
1.	Current economic health	Unprofitable (profit squeeze); tight money; losing money; intolerable costs; contracting business	Profitable; surplus money; highly profitable enterprise; tolerable costs; expanding business.
2.	Top management and its policies		
a.	Directive or participative	Directive	Participative
b.	Time perspective	Short	Long
c.	Objectives	Order, stability	Flexibility, creativity
d.	Clarity of objectives; ease of measurement of progress	Unclear	Clear
e.	Job prescriptions	Simplification	Enlargement
f.	Secrecy required or demanded	Yes	No
g.	Desired public image	Conservative	Liberal
h.	Religious identification of top management	Catholic, homogeneous	Jewish heterogeneous
3.	Structure in which work group is embedded		
a.	Departmental function	Production, accounting, finance	Research, personnel, general management

Attributes of the Organizational Climate	If the Organizational Climate Is as Below, Then a Supervisor Tends to Be: Directive	Participative
b. Line or staff	Line	Staff
c. Level in the organization	Lower	Higher
d. Production system	Mass, batch	Process
e. Centralization	High	Low
f. Negotiating requirements	Flexibility	Support
g. Immediate boss of supervisor	Directive	Participative
h. Number of hierarchical levels trained in participation	Few	Many
i. Man-to-man or overlapping groups	Man-to-man	Groups

TABLE 5 TENDENCY OF A SUPERVISOR TO BE DIRECTIVE OR PARTICIPATIVE RELATED TO TASK REQUIREMENT.

Task Requirements	If the Task Requirements Are as Below, a Supervisor Tends to Be: Directive	Participative
1. Characteristics of problem and decision requirements		
a. Solution to problem	Unitary, convergent	Multiple, divergent
b. High quality required	No	Yes
c. Emergency action, rapid decisions	Yes	No
d. Amount of structure, division of labor; coordination required	Very high or very low	Moderate
e. Routine or varied	Routine	Varied
f. Machine-paced	Yes	No
g. Practical or theoretical	Practical	Theoretical
h. Intellectual, problem-solving versus manual, manipulative	Manual	Intellectual
2. Consequences of task completion		
a. Conflicts of interest for subordinates (i.e., salary increase)	Yes	No
b. Outcome of consequence to:	Organization	Subordinates
3. Motives and contraints		
a. Stressful, pressure, strain	Very high; very low	Moderate
b. Can be delegated; subordinates have control or skills	No	Yes

Task Requirements	If the Task Requirements Are as Below, a Supervisor Tends to Be: Directive	Participative
c. Interaction potential, group size, worker connectivity, worker prox imity	Low	High
d. Cost of participation	Expensive	Cheap

APPENDIX D/MISCELLANEOUS LINKAGES BETWEEN ORGANIZATION AND PRACTICE

APPENDIX D/MISCELLANEOUS LINKAGES BETWEEN ORGANIZATION AND PRACTICE

Part Three (Summary and Conclusions) included linkages between four primary organizational criteria (internal delegation, control, directive/participative approaches, and continuity) and the remaining eleven criteria. The logic behind that particular emphasis has been discussed.

The interrelationships of the secondary elevel criteria are included here (as represented by "O" on the LINKAGES matrix).

1. Dollar Volume and Legal Form

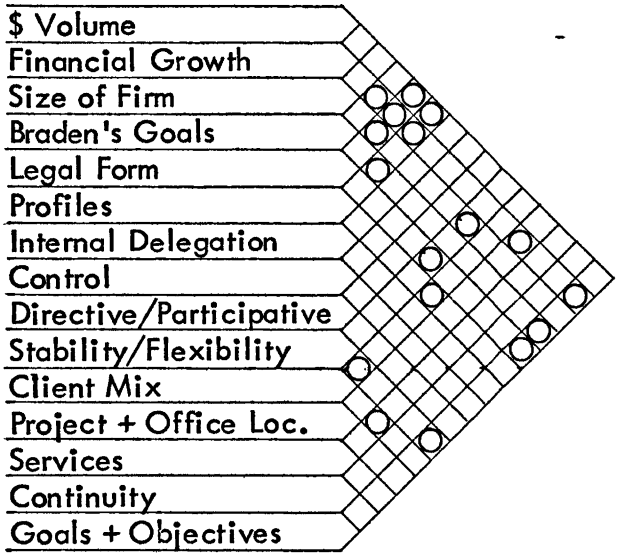
Any participant in a firm, be that person a proprietor, partner, or stock-holder wants (even demands) a return on investment. Moreover, a growing volume of work is indication the firm is "solid". While people within the profession may accept (if not understand) the cyclical nature of the services work, outside investors, particularly in publicly-held firms, must look to the quantifiable performance of profession services compared with all other options (e.g. - stocks in other types of organizations, bonds, and real estate). This comparison (regardless of its validity) translates into the expectations for professional service organizations to use the available capital to aggressively expand the volume of business. The return of such firms as 3D/International and Benham-Blair to closely-held corporations speaks to the fact that they could not compete for public-market money and continue to operate as they had chosen.

2. Dollar Volume and Profiles

It seems intuitively significant that the rise in Hunters within an organization may effect the volume of work (measured in dollars). These individuals who seek power as a primary

LINKAGES

Organizational Criteria



compensation (by definition) and relate money as a convenient indicator of the power commanded, have aggresive characteristics that can be focussed on marketing an expanding service.

3. Financial Growth and Braden's Goals

The basis for Braden's triune goals (reference Figure One/INTRODUCTION) of employee development, quality assurance, and client satisfaction is the profit of the firm (and its probability of being in business next year). Along with Braden, Paseur of CRSDA, Caudill of CRS, and Hildebrandt of Golemon and Rolfe pointed up the necessity and balance of the three. Without any one of these, the profit and justification for the other two goals are non-existent.

4. Financial Growth and Legal Form

As was discussed in ORGANIZATION/LEGAL FORM, there is an evolution of the legal form of a firm over time. This, of course, assumes financial growth over the same interval. Many of the advantages of the legal forms (i.e. - proprietorship, partnership, and corporation) are directly related to dollar volume and staff size (which, it may be argued, is dependent on dollar volume, as well). Thus, the change in legal form is almost necessitated by growth. A reference to Engineering News-Record's "Top 500" indicates not only a concentration of corporations in the higher volume intervals, but also the trend over thirteen years to more coporations on the whole.

5. Financial Growth and Profiles

Simply stated, the Hunter's connection between growth and goodness is a strong as the Shepherd's need for community and friendship, and the Farmer's insistence on technical

competence. While each of the others would not necessarily defer growth, the Hunter all but, and in some cases does, demand it. Witness the energy CRSDA has put into growth, as opposed to G & R's earlier disinterest.

6. Financial Growth and Geographic Location

Favorable economic growth seems to have spurred the branch office situation of CRS, while hardly affecting 3D/I's outposts. Conversely, CRS has closed four offices since 1970, partially in response to the recession. Both companies have continued the trend of foreign work because: (1) these projects were not necessarily subject to the recession, and (2) the lead-time required for foreign work is substantial enough that the Middle East work (for example) was largely marketed in the prosperous 1960's.

7. Financial Growth and Goals & Objectives

Financial growth as a value or ideal goal depends for its success upon the concise translation of goals into prioritized, operating objectives, and the clear communication of these to the people of the firm. Reference S. I. Morris Associates' consistent $5 million annual billings and their lack of a goals and objectives process. Conversely, CRSDA commands one of the most extensive networks for establishing their targets and one of the more rapid advances in ENR's "Top 500" (Appendix B). The addage: "if you do not know where you are going, you will surely end up somewhere else"seems to characterize this.

8. Size of Firm and Legal Form

As was discussed earlier in this section, the number of employees can be associated with the legal form (witness the case studies) although correlation may not be argued as neither variable is truly independent of, or dependent upon, the other.

9. Size of Firm and Stability/Flexibility

While the large firm (theoretically) has the sustaining work from which to launch new types of projects and commands the capital required for such ventures, the reputation and track record of the company may overrule these abilities. Witness CRS's repeatedly futile attempt to do commercial work on a scale comparable to its health and educational facilities volume. S. I. Morris Associates is now attempting the reverse (i.e.-having built a clientele in commerical work, the firm is beignning to emphasize institutional project capabilities). The change is extremely difficult.

10. Braden's Goals and Profiles

Looking at the three goals of professional service organizations, its seems the Shepherd would be most interested in employee development and client satisfaction (at least on the personal level). The Farmer seems more aligned with quality assurance, and the pragmatic Hunter might subjugate, any or all of these for any perceived gain. However, Braden and others pointed out, the balance of the three goals is essential, Thus, a balance among principals seems to be as necessary.

11. Braden's Goals and Goals + Objectives

Braden's Goals, like "Mom, apple pie, and the girl next door", are hardly the types of ideals anyone would object to. To be of any significance, though, these must be translated into concrete, operational (time and quantity related) objectives, and then be prioritized to avoid confusion among competing objectives. S. I. Morris Associates is just now beginning to think of an explicit objective - establishing process, although the firm has acknowledged quality, client satisfaction, and employee development since inception.

12. Legal Form and Stability/Flexibility

The corporation is viewed as the most stable form regarding continuity due to its perpetual nature. At the same time, it is flexible in that it facilitates ownership transfer through stock sales. Compromising a portion of this flexibility is the degree of governmental regulation of corporations.

The partnership is not considered a flexible agreement as the specific participants are locked in for the partnership's duration. This problem was evidenced in the former Wilson, Morris, Crain, and Anderson as well as Golemon and Rolfe. The partnership is somewhat stable even though the legal body is dissolved when one or more principals leaves the firm. The remaining participants often reorgnize with little practical difference in operations.

The proprietorship is least stable with respect to continuity as it, by definition is tied to one individual's involvement. Flexibility, if measured by ease of ownership transfer, is non-existent in architectural practice.

13. Legal Form and Goals and Objectives

As has been seen in the early (c. 1972) attempts of architectural firms to convert to publicly-held corporations and the subsequent reversion to closely-held status, the ideas of competing with other businesses for capital is not necessarily compatible with the organizations directions.

For CRSDA, the precepts of agressive survival (Hunters) seemed to be sufficient to keep them in the public market-place. However, firms like 3D/I, which wanted benefits of tax statutes and preferential stock sales to employees, lacked the crucial importance that CRSDA associated with "going public". While timing was also important, the reasons behind the moves are very different and consequently affected each firm's ability to maintain its public ownership.

14. Profiles and Client Mix

If the Hunter is not concerned with long-term effects of cultivating repeat clients, his aggression may drive them away (which may be the case in spite of a concern for return work).

With respect to committee clients, the Shepherd seems better able to handle the large amounts of personal relationships which develop between the client and architect. An example of this is Golemon and Rolfe and its ability to deal with repeat, committee clients. "Individual" clients (who seem to be strong Hunters) may appreciate and better work with Hunters within the firm (S. I. Morris Associates and 3D/I).

15. Stability/Flexibility and Client Mix

Stability is expressed in one way by the ability to do work for repeat clients (G & R, 3D/I). However, a firm which serves a majority of one-time clients may be quite stable if that organization has an effective business development program (such as does CRS).

Internal stability seems less associated with client mix as measured by employee turnover, such as is evidenced by CRS. A high turnover of people makes overall stability

more difficult to maintain, but not impossibility.

16. Stability/Flexibility and Goals + Objectives

Stability (the presence of which may be measured by work colume, repeat clients, and employee tenure) as a goal may mean the stagnation of a firm (through rigidity) if carried to an extreme. Of course, in the opposite way, flexibility may be found to the greatest extent in no plan at all. The points of establishing operational objectives, prioritizing these, and communicating the set to people are to (1) focus upon and (2) be committed to the values of the firm. Understanding exactly what the set of objectives means to members of the organization enables all to make necessary compromises to operate collectively. A lack of such clarity seems to leave especially newer members of the firm in a void, as might be the case in S. I. Morris Associates, as this kind of process is just now being considered.

17. Client Mix and Services

For any given building type, the incidence of repeat clients seems to be related to the presence of expertise in the later phases of the design process (construction documents, construction administration, etc.) as exemplified by Golemon and Rolfe and S. I. Morris Associates. For CRS, the strengths in early phases (e.g. programming, schematic design) enables them to draw more new clients. The other differences influencing these examples is the dollar nature of work the firms do. Usually, CRS cannot profitably undertake projects with less than a six million dollar construction budget. G & R's threshold, due to its scale of operations, is much lower, encompassing more of the client field. However, the return work of any one client with G & R might not total the single commission for a CRS project.

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