Relationships Between Organizational Structure and Culture in the Practice of Architecture
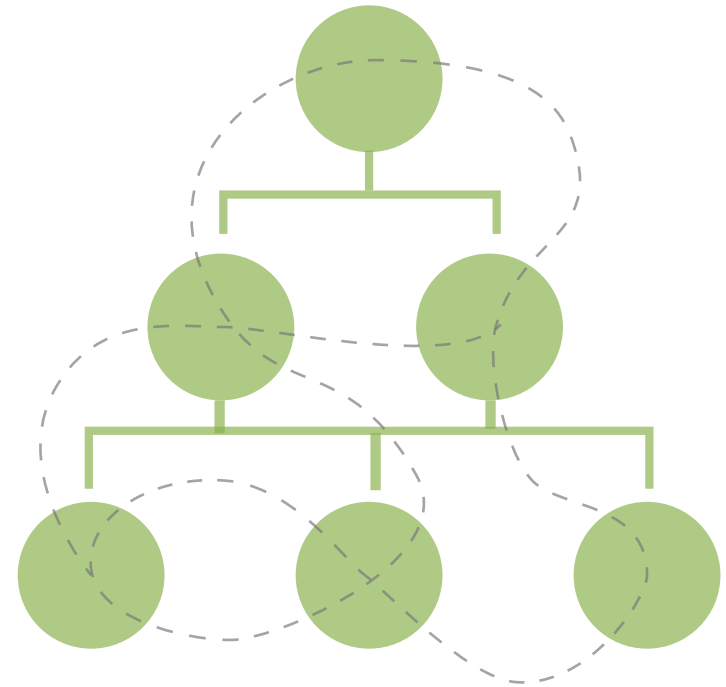
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Acknowledgements

Introduction

In the last few months, the architecture profession made a splash in the New York Times as the next white-collar profession to seek unionization. Union organizers lament, "[feeling] pushed to the limits of our productivity and mental health" (Scheiber). While unionization might feel like a solution for some, the symptoms that brought on the unionization efforts might benefit from a question Harvard Business Review author and management consultant, Ron Carucci, asks, "What deeper organization design issue might this be a symptom of?" (Carucci). Some unionization petitions have since been withdrawn, however, the attention the movement garnered shines light on an undeniable, pervasive issue facing the architecture practice. The implications, if left ignored, could be dismal for the profession.
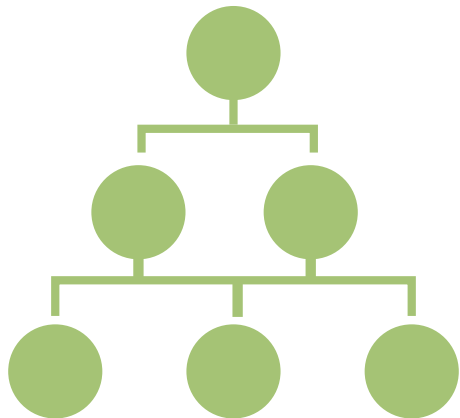
This paper seeks to identify relationships between organizational culture and structure that may be contributing factors to symptoms like burnout and overwork. "With its assumptions, values, and norms, … culture influences top management's frame of reference that shapes organizational structure. Organizational structure is, therefore, a sort of cultural symbol and it mirrors key assumptions and values dominant in an organization" (Janicijevic). How do certain attributes of organizational structure influence organizational culture in architecture? How is the employee experience influenced by organizational structure and its implementation? How can organizational culture influence structure? How does the architectural design process play a role in structural systems and cultural perceptions? How do these concepts manifest in operational versus managerial contexts? Is it possible to pin-point aspects of structure or culture that lead to the burnout described by unionizers?

Due to the unique balance of structural/cultural factors in relation to firm size, age, project type, and client type, interviews were conducted as a methodology for understanding different manifestations of structure and cultural typologies. Background research into organizational structure and culture theories guide the discussion. The theories chosen represent thinking that does not isolate organizational structure from human behavior. This paper assumes an accepted understanding that culture legitimizes structure, and in turn, structure institutionalizes culture as illustrated in Exhibit 1 (Janicijevic).

This section lays the conceptual groundwork and common understanding of terms and definitions for discussing relationships between organizational structure and culture. The structural and cultural typologies researched are summarized with more attention given to structures found prominent in interviews with participating firms. For more in-depth examination, readers are encouraged to refer to the appendices or the sources themselves. More details in list form of the Mintzberg, Handy, and Trompenaars' typologies can be found in Exhibits 4-7.

Organizational Structure

The Five Elements (Colquitt)

The elements of organizational structure are important to understand when discussing structural design and the human behaviors resulting from the magnitude of their implementation. Five elements of organizational structure are work specialization, chain of command, span of control, centralization, and formalization. Work specialization describes "the way in which tasks in an organization are divided into separate jobs" (Colquitt, page 484). Chain of Command is who reports to whom. Span of control refers to managers and "represents how many employees he or she is responsible for" (Colquitt, page 484). Centralization refers to "where decisions are formally made in organizations." An organization is highly centralized when only top managers have authority to make final decisions (Colquitt, page 486). Lastly, "a company is high in formalization when there are many specific rules and procedures used to standardize behaviors and decisions" (Colquitt, page 487). Exhibit 2 illustrates how two of these elements, centralization and formalization, overlap with structures discussed in the following pages.

- Work Specialization
- Chain of Command
- Span of Control
- Centralization
- Formalization

Organizational Structure

Structural Configurations (Mintzberg)

- **Simple**
- **Machine Bureaucracy**
- **Divisionalized Form**
- **Professional Bureaucracy**
- **Adhocracy**

Henry Mintzberg is a recognized leader in theory regarding organizational structure. His perspective for understanding structure comes from a desire to understand how organizations form their strategies. He believes to understand strategy, we must first understand organizational structure (Mintzberg, page xi). There are five configurations to consider when discussing organizational structure as identified by Henry Mintzberg: Simple, Machine Bureaucracy, Professional Bureaucracy, Divisionalized Form, and the Adhocracy.

Simple structure is characterized by centralized decision-making, direct supervision, informal relationships, entrepreneurial spirit, and rudimentary business operations. Employees can experience a strong sense of mission supported by an intimate setting where personal relationships abound. With decisions and guidance often falling on one or few paternalistic/maternalistic figures, this form can be, "accused of distributing organizational power inappropriately" (Mintzberg, page 313). This form is seen in younger organizations.

"When in doubt, control," (Mintzberg, page 338) is the mantra of the Machine Bureaucracy structure. Characteristics include high specialization, high formalization, repetition, and high standardization. Top management spends most of its time improving the machine or handling conflicts that arise in the rigid structure. Since adaption of operations and strategy are difficult in this rigid form, the human element struggles to be seen and heard. This typology relies on formal communication up and down the structure. Machine Bureaucracy is often found in mature organizations. Some examples include, "regulatory agencies, custodial prisons, and police forces" (Mintzberg, page 331).

Characteristics of Professional Bureaucracy include the standardization of skills, decentralization of decision making, indoctrination, and a large need for training. In this typology, "the professional works relatively independently of his [or her] colleagues, but closely with the clients he [or she] serves" (Mintzberg, page 349). Two examples being teachers and students and professional service industries, like architecture. Professionals in this environment relate more with their craft than the organization itself. Autonomy is given to practitioners because the work is complex, processes are complex, and outputs are not easily measured. Small spans of control

Organizational Structure

Structural Configurations (Mintzberg)

- **Simple**
- **Machine Bureaucracy**
- **Divisionalized Form**
- **Professional Bureaucracy**
- **Adhocracy**

make it easier for managers to manage projects. With value placed on individual knowledge and expertise, the nature of the current project determines which professionals within an organization will be part of the team.

The Divsionalized Form is "a set of quasi-autonomous entities couple together by a central administrative structure" (Mintzberg, page 380). This form most notably exists in mature, large, private sector companies and Fortune 500 companies. Almost full autonomy is given to divisions which are organized by market sectors or products. Top administration is responsible for overseeing and setting performance metrics for each of the divisions. Decision-making is centralized to the leaders of each division. A result of an emphasis on performance metrics can lead to an environment where managers are encouraged to ignore the social implications of their work, both internally and externally. This focus can overshadow less measurable indicators of success such as "pride in work, customers well served," motivation, and job satisfaction (Mintzberg, page 424). Mintzberg specifically warns that this form is unstable, has the narrowest range of applications, and finds itself pulled in the direction of other forms (Mintzberg, page 430).

The newest, least studied structural configuration discussed by Mintzberg, as of 1979, is the Adhocracy. Adhocracy is capable of "sophisticated innovation," and "able to fuse experts drawn from different disciplines into smoothly functioning ad hoc project teams," better than any other form (Mintzberg, page 432). Of the forms, it is the most complex and least ordered. It is low in formalization and standardization, high in specialization, and selectively decentralized. Activities are so infrequently repeated, that procedures and standards cannot be organized neatly enough to warrant rigid configurations. A narrow span of control means there is an abundance of different types of managers including functional, integrating, and project managers. Project managers behave more as peers in project teams to achieve coordination, wielding interpersonal skills as power rather than decision making power. Top management focuses on monitoring projects and bringing in new ones. The cost of communication creates inefficiencies. "People talk a lot in these structures; that is how they combine their knowledge and develop new ideas" (Mintzberg, page 463). The redeeming factor to this inefficiency is the ownership in decisions resulting from team members' participation. Another source of inefficiency is the unbalanced workload. Managers cited workload as one of the most common "human problems."

Two authors offering insights into cultural archetypes are Charles Handy and Fons Trompenaars. While their cultural typologies are similar, there are key observations made by each researcher making a summary of both of their ideas important. See more detail in Exhibits 5-7.

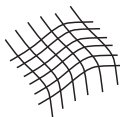## Handy and the Gods of Management (Handy, pages 13-59)

Handy writes from a perspective that cultural models are tools and while all organizations are different, "there are some patterns that can be discerned, models that can be imitated, and … what matters most is getting the right culture in the right place for the right purpose" (Handy, page 4). When cultural model and management align, he believes inefficiencies and dissatisfaction are less prevalent. Awareness of our own cultural subscriptions is critical to understanding how to manage organizational culture. Handy's characterizations of cultural typologies are Club, Role, Task, and Existential. He uses visual icons to illustrate each type (Exhibit 5). Additionally, Handy explicitly calls out architects as belonging to Task and Existential ways of thinking.

Club culture is found in small, entrepreneurial businesses. The "Zeuses" that comprise this culture are often charismatic, highly experimental risk takers. Individuals and the business need to be able to make quick, critical decisions. Face-to-face relationships with one another and with customers are important to maintaining this low formalized structure where trust is essential. Learning comes from an apprenticeship type relationship, change comes through exchanging people, and money or resources are the preferred method of reward.

Leave your personality at home in Role culture. Roles, responsibilities, and the authority that come with their associated titles give individuals power in this culture. High formalization means Role organizations are slow to adapt to change. If change does come, it is in the form of adjustments to roles, responsibilities or the rigid procedures which are critical for the proper functioning of the machine. "Apollonians," who comprise this typology, are motivated by predictability and the ability to fill the obligations of their role. Individuals and the organization have a contractual or transactional mindset. Rewards are preferred in the form of added authority and the status that comes with it.

Task culture exists for the purpose of "continuous and successful solution of problems"

Handy

Club

Role

Task

Existential

(Handy, page 21). Knowledge, expertise, and creativity are valued above age or tenure making this culture expensive and sensitive to economic volatility. Like an adhocracy, teams are constantly formed and reformed based on project needs. "Athenians" handle management challenges in the same way, through committees, however, these committees often have little influence due to the lack of overlap with formal authority. Change is possible by changing the problem to be solved. "Athenians" are motivated by variety of task and self-improvement. Satisfaction of results is enough reward for Athenians.

In Existential culture, "management is a chore" and "Dionysians recognize no boss" (Handy, page 26). Talent, individuality, and personal freedom are highly valued. The "Dionysians" existing in Existential culture, tie their identity to their craft similar to the Professional Bureaucracy. They are motivated by unpredictability and making large scale impact. Results are a reward for "Dionysians"; recognition is not necessary. Change requires negotiations. Talking about Existential culture as a collective is almost an oxymoron. Those who fit into this category reject that they belong to a category.

Trompenaars' Corporate Cultures (Trompenaars, pages 156-177)

Believing that "employees will give meaning to their environment based on their own particular cultural programming," (Trompenaars page, 157) Trompenaars explores corporate culture through a lens of international cultures. The three items he deems important to determining a culture are, " the relationship between employees and the organization, … hierarchical system of authority, … and view of employees about the organization's destiny, purpose and goals" (Trompenaars, page 157). Trompenaars identifies four corporate cultures: Family culture, Eiffel Tower culture, Guided Missile culture, and Incubator culture.

Family culture is characterized by, "personal, … face to face relationships," while also being, "hierarchical, in the sense that the father of a family… knows better than his subordinates." This type of culture is focused on the growth of its people and decisions are made with the influence of the "father figure" in mind. Bottom-up change is unlikely and

Trompenaars

- **Family**
- **Eiffel Tower**
- **Guided Missile**
- **Incubator**

public criticism is discouraged due to power dynamics. Members are motivated by praise, appreciation, and effectiveness. This typology is similar, but not identical, to Club culture.

Eiffel Tower culture is characterized by specific relationships, depersonalization, and ascribed status, similar to Role culture. These types of companies place major emphasis on professional qualifications and hierarchy. "Steep… at the top and broad at the base," each role from the bottom up builds on the next; the boss is obeyed "because it is [the boss's] role to instruct." Change is difficult but should start by changing rules or role requirements. Authority, power, and status are determined by role. Personal relationships are discouraged to prevent bias during performance evaluations.

Depersonalization, egalitarian, and strategic intent are attributes of a Guided Missile culture. Tasks are oriented around projects and specific to the type of project, not determined in advance. This typology is shares characteristics of Task culture and Adhocracy. Projects require the coordination of many kinds of cross-disciplinary expertise; therefore, specific professional experience is of high value. Individuals tend to be intrinsically motivated and value collaboration to meet a clear, shared goal.

Incubator culture emphasizes the growth and development of the individual while the organization's goals are secondary. This type is found in innovative companies or services industries. Minimal hierarchy, resourcefulness, emotional commitment to a higher calling, close relationships, and enjoyment in creating are further attributes of Incubator culture. Structure and hierarchy are hard to find. Incubator cultures can be limited in size due the need for small spans of control. Spontaneity of communication is critical for coordination and efficiency often maxes out at 75-100 people. Individuals are motivated by participation in problem solving and contributing creatively, similar to an Adhocracy.

A Note on the Word "Culture"

"Those of us interested in how organizations work, as well as those engaged in building successful organizations, need to develop a way of talking that captures the discursive nature of group behavior and to think in terms of all groups as processes that shape and are shaped by individuals" (Traphagan). Traphagan points out the confusion between the definition of "culture" seemingly understood by the authors of the theories above and the definition assumed by those actively working in organizations to manage structure and culture. Handy and Trompenaars describe their frameworks above as "cultures" instead of structures. It is this author's opinion that Handy and Trompenaars described what was understood as culture during the formation of their frameworks. Their discussions briefly touch on the human behavior that each typology encourages. Colquitt (et. al.) defines culture as, "the shared social knowledge within an organization regarding the rules, norms, and values that shape the attitudes and behaviors of its employees" (page 510). This is the definition commonly understood in interviews for this research and will be the shared understanding for the remaining sections. The frameworks within the theories will be referred to as "structural typologies" or "typologies." Some examples of the differentiation in structure and culture include:
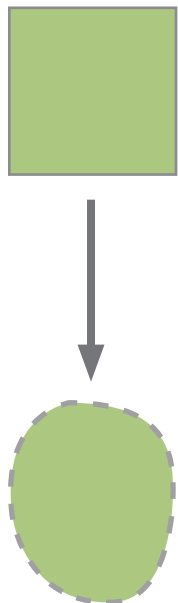
Structural Attribute	Cultural Attitude/Behavior
Incentive structures…	can affect employees' motivation or how they prioritize tasks
Chains of command…	influence the closeness of personal relationships between colleagues
Authority or power…	influence an employee's comfortability with whom they discuss personal or professional challenges
Title and task allocation…	may overlook capability based in soft skills

Based on the author's experience, research, and interviews, all the typologies discussed above are seen in the architecture industry in varying magnitudes. Commonly appearing together in organizations are Incubator, Existential, Role, and Guided Missile, as well as a preference for the Professional Bureaucracy, Divisionalized Form, and Adhocracy typologies. These typologies support the coexistence of the creative processes in building design, the leverage of explicit knowledge needed to execute designs, and the sharing of tacit knowledge inherent to the craft. See Exhibit 9 for radar diagrams illustrating the author's interpretation of the typologies found in the firms interviewed. See Exhibit 8 for designations and a brief description of the firms. Representatives in upper management from eight firms were interviewed representing a cross-section of firm size, project type, and include every American time zone. They are numbered from smallest to largest and referred to as Anonymous Firm # (AF#).
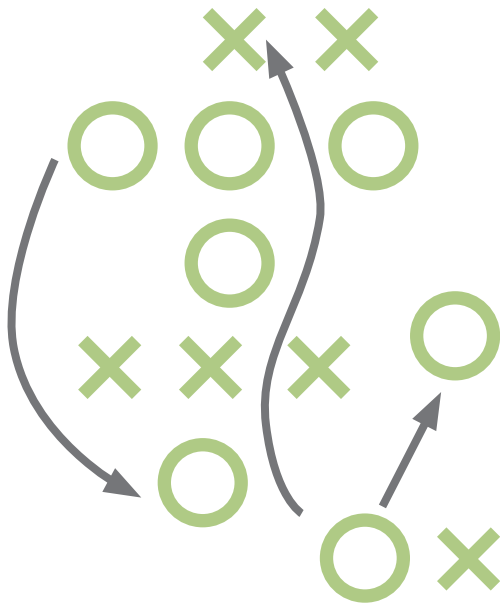
The next section combines trends from interviews, the characteristics from the structural typologies, and nuances of the practice of architecture to prioritize organizational structure and culture design considerations. The considerations reflect trends from interviews and possible ways of managing symptoms of burnout and overwork. While considerations on organizational structure and cultural design should not exclude Handy's ideas, for clarity, only Mintzberg and Trompenaars typologies are referenced.

Considerations

Consideration 1: How are employees trained, motivated, and nurtured throughout their careers?

Education and continuous training are important to the proper functioning of firms subscribing to characteristics of Guided Missile, Incubator, Professional Bureaucracy, and Adhocracy typologies. Firms acknowledged the need to manage technical knowledge/skills (explicit knowledge), judgment in best practices (tacit knowledge), and personal mentoring in the growth of employees while also leveraging creative ability. All four aspects contribute to the success of the business, projects, and individuals.

Explicit and Implicit Knowledge

AF6 addresses tacit knowledge by an intentional emphasis on an education and learning-centered culture. Employees with experience are expected to answer questions and spend time with less seasoned staff, passing along industry best practices and building science knowledge through day-to-day interactions. In an Adhocratic environment, that expectation perpetuates itself. AF5 mentioned balancing technical knowledge and creative processes as a core value in its foundation. By hiring mostly employees that are new to the industry, they display intention in employee education by staffing project teams to allow for the sharing of explicit and implicit knowledge. Employees are not limited to one "studio" or project type. Exposure to as many project types as possible for maximum learning is the goal.

AF2 encourages the exchange of explicit knowledge between employees through formal presentations. AF2 expects each employee to develop an area of passion to research for the overall betterment of the firm. Presentations on recent findings and research are expected throughout an employee's tenure.

Each conversation touched on the allocation of specialized knowledge. The traditional tendency is to see more specialists of knowledge emerge as firms grow. For example, AF8 (who is one of two firms interviewed exhibiting characteristics of Divisionalized Form), utilizes design lead, business lead, and more recently, a technical lead, at the studio scale in their divisions. At the same time, project managers are expected to be generalists with knowledge of every aspect of the

- Explicit Knowledge
- Implicit Knowledge
- Mentorship

building process from conception to ribbon cutting. Conversely, AF2 utilizes specialists but on the project scale rather than studio scale. AF1 and AF2 are actively, and admittedly, challenging the traditional definition of project manager, believing that the perfect project manager who is a generalist, does not exist. Projects in AF2 move through multiple hands at different stages of the project as well as during the design process itself. Each employee exerts their strengths at the appropriate time in the life span of a project. Employees leveraging their strengths report higher job satisfaction and engagement (Colquitt). Specialization takes multiple forms and varies according to firm size, education type, and project management philosophy.

Explicit and implicit knowledge training in the firms interviewed focused mainly on designers new to the industry and practice. Perhaps there are strides to be made in cross-generational training and mentoring. Flow of knowledge creates trust between the professionals assigned to achieving project goals. This idea would thrive in Incubator and Adhocratic structures where contributions and personal development are major motivators. The specialists that emerge in firms of any size exhibiting Guided Missile culture may yield more of their kind through a formal, internal exchange of explicit knowledge as seen in AF2.

Mentoring

Smaller firms such as AF1 and AF2 address mentoring and personal development in one-on-one check-ins with employees on a biweekly basis. Their size allows firm leaders time to develop close relationships. For firms larger than AF1 and AF2, mentoring and training become more formal. In AF6 and AF8, there are internal, company-branded formal structures for mentoring.

In order to utilize the strengths and personal passions of staff at the optimum level, relationships require more attention. Trompenaars observes that spontaneity of communication in Incubator typologies maxes out around 75-100 employees. Perhaps an industry value on spontaneous communication or collaboration is a potential reason for most practices to employ 50 people or less as seen in Exhibit 10a (Baker, et al). This communication is critical to forming relationships through which strengths are identified and the personal goals of employees can be woven into the goals of the business and vice versa. Even if high level decision makers are not in close contact with staff, someone with authority to influence an employee's experience should be accessible. The point is to foster comfort in the exchange of positive and negative experiences so

they can be addressed. While seemingly easier to manage in firms such as AF6 (at 65 employees) and smaller, formality may be necessary for similar results at larger firms. AF6 allows any employee who has been with the firm for 9-12 months to choose an "advocate" for this purpose. The formal advocacy includes goals for not only personal mentoring, but advocates are expected to remove barriers and help employees reach their goals and objectives within the firm.

Consideration 2: How does structure manifest in the design process?

The firms interviewed facilitate design exercises that encourage the equal participation of all firm members regardless of authority, experience, or title. Ideas are openly exchanged in a positive and welcoming environment. This type of activity is indicative of Incubator and Adhocracy. Challenges in the creative process arise when the flow of ideas must give way to decisions and production of deliverables for construction. In the absence of consensus, the lack of structure or chain of command seen in Incubator and Adhocracies must give way to an authority figure for the sake of moving the project forward. These situations must be managed delicately to preserve the organic and innovative tendencies of the creative employees functioning in primarily Incubator and Adhocratic environments. The layering of a flavor of Professional Bureaucracy may cause conflict, however, by playing into the motivations of Guided Missile values (emphasizing project goals), the hurdle may be passed smoothly. AF5 handles this transition by placing objective time frames on creative thinking. AF3 mentioned that handling the transition well is critical in making sure employees are not discouraged from continuing to voice their valuable design opinion. They employ a Design Director with authority to influence the direction of design upon reviewing the project team's ideas.

Considerations

Consideration 3: How are success measures influencing business management, project management, and people management?

- **Business Management**
- **Project Management**
- **People Management**

AF5 discussed an interesting way of observing success by individual project: Is the project profitable? Is the firm proud of the design? Is there growth in the team? These questions point to three common areas of structural and cultural design prevalent in every interview. Each question addresses either business success, project success, or employee growth. The latter two beg the question, "how are these measured?" Profitability is the easiest to measure and analyze but by itself, does not tell the whole story. Projects that are not profitable can still be successful in the other two ways. Conversely, projects that are profitable can suffer from poor project management and fail to foster employees. Project and employee success are important to consider due to the motivations of employees in Incubator, Guided Missile, and Adhocratic typologies. Employees in these typologies are moted by results and personal growth, not necessarily profitability. Criteria for measuring project and people success needs consideration.

Firms with shareholders or characteristics of Professional Bureaucracies, Eiffel Tower, and Divisionalized Form typologies emphasize measurable Key Performance Indicators. It is inherent in the type of control top management needs over business success. AF8 supports Mintzberg's observations by tracking utilization rates and profitability and basing bonus incentives on those metrics. They preserve some elements of adhocracy by including discretionary bonus incentives for exemplary individuals determined by studio and division leaders. While these rewards are perks of their chosen structure, the Adhocratic and Guided Missile environment of individual studios will also foster motivation and reward through the satisfaction of producing a successful design.

One way of determining people management success is the Employee Net Promoter Score (eNPS). Measured by how likely an employee is to recommend a workplace, "the score is ultimately an indicator of employee engagement, which has been shown to have direct connections to employee retention, productivity, and a firm's financial health and profitability," (Lee). "Detractors" are those who are likely disengaged while "Promoters" are the most engaged and satisfied. eNPS is measured by subtracting the percent of detractors from the percent of

Considerations

Business Management

Project Management

People Management

Promoters. eNPS is a quick, easily understood measure that can be tracked over time and used to find departments or teams that need attention in the organization. While there is much more to consider when recommending an organization, eNPS is a place to begin (Davies). Any firm claiming to actively foster a healthy culture should collect success metrics relating to employee engagement.

Setting intentions and goals for projects helps to gauge their success when hard metrics are not available. While AF5 uses design pride and team growth as measures at a high level, defining specific goals using timeframes, achievable milestones, or other relevant project criteria can help in identifying areas for improvement. AF2, for example, pays close attention to hours worked in a week and if employees spend more than 40 hours working in one week, it is cause for a conversation. This practice helps them determine if there are struggles with project execution or uncovers staffing issues quickly. Holding that standard firmly fosters a communicative environment where burnout and overwork are unacceptable. Project teams can set goals around anything they believe is an indicator of success and, even better, a contributor to employee engagement. Here are some examples of project management goals appearing in firm interviews: number of late nights, frequency of team communication, client touch points and satisfaction, consultant touch points, level of QA/QC involvement, scope accuracy, and scope creep. The added layer of collectively determining these types of success factors within teams or organizations directly supports known strengths of Adhocratic and Guided Missile typologies.
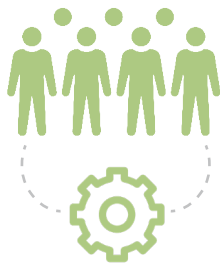
Performance appraisals are important to business success as well as employee success. Check-ins and reviews ranged in frequency from twice per month to twice per year. Most firms do not combine compensation appraisals with performance appraisals. Smaller firms trend towards more frequent and less formal check-ins. As frequency decreases, the tendency for written response forms increases. All firms attempt to encourage employees to be in regular with leaders regardless of the formal appraisal schedule. Consideration for events that trigger appraisals, formal or informal, needs reflection and alignment with management strategy. For example, perhaps the end of a project, design phase, major deadline, or other project related milestone could be more appropriate depending on project type and size. Also needing consideration is the conductor of performance appraisals and reviews. What are the goals of the review? What skills and capabilities need measurement and benchmarking? Who are the most appropriate assessors of the skills or capabilities undergoing reflection? What is the device for measuring improvement?

Considerations

Consideration 4: Are business strategy, project delivery strategy, and people management strategy in alignment with structure?

- **Business Strategy**
- **Project Strategy**
- **People Strategy**

AF4 described a way its business strategy aligns with its structure. The firm is interested in larger, high-profile projects but its small size typically does not support the numbers required to staff them. Their solution lies in a business strategy to partner with other firms to obtain and properly staff the work they are interested in while preserving the intimacy and close relationship they value in size. AF4 exhibits alignment of all three strategies and their structural typology preferences appropriately respond.

AF2 chooses to align their people management strategy, project delivery strategy, and business strategy in a non-traditional way. A three-tiered functional title system aligns with three set salaries, level of expectations relating to projects, and expectations relating to the business. These functional titles do not relate to task assignments for projects. As previously mentioned, task assignments for projects are determined by individual strengths. AF2 injects the minimum amount of Professional Bureaucracy necessary to business strategy without sacrificing their core values relating to people and project management strategy. The resulting culture, as AF2 described, is transparency, trust, and equity.

AF7 described experiencing a different culture based on project team, mainly because of management style. While access to different management styles can be a good way of learning to work with different kinds of people, conflict arises when expectations are not consistent. Its leanings towards Professional Bureaucracy would imply that more standardization and formalization could mitigate confusion in project or people management from team to team in AF7.

Considerations

Consideration 5: Does the structural design employed align with market sectors or project types?

Different types of clients or markets sometimes expect teams to operate in a particular typology. AF5 mentioned clients such as government entities falling into this mindset. Government clients may expect the typology of the firm to be similar to its own organizational typology, in this case, likely Eiffel Tower, causing them to make assumptions about roles and responsibilities attached to titles. In some firms leaning towards an Eiffel Tower typology, this may be true, however, title does not necessarily mean capability or responsibility in other firms. AF5 intentionally communicates with their clients about team structure on projects to make sure that there is an understanding that many team members are empowered and capable of performing many tasks. Taking time to educate clients regarding the inner workings of project operations is a chance to teach the client how to interact with the team and vice versa. Project team operations can become a competitive edge when properly communicated. Animosity may arise on project teams if the client begins to treat a team member according to a title that does not hold truth in firm practice.

Conversely, it may be beneficial to adopt a more Eiffel Tower approach with clients who are not willing to adapt to working with firms exhibiting traits of less rigid typologies. This might look like a client insisting on a specific way of communicating, documenting, or designing that does not align with firm operations or philosophy. If a fundamental mismatch exists that does not improve with intentional communication, it could be time for a change in structural typology or an examination of market sector or project type. AF1 described a necessary shift in client types after experiencing challenges between the Adhocratic/Incubator leanings of the firm and the bureaucratic nature of their client's operations. AF1 felt that they would be unable to implement their brand of design process as well as achieve their strategic goals and vision if they continued forward with certain clients and project types. This kind of mismatch can also place strain on individuals who experience conflicting expectations from the firm culture and their clients.

Considerations

Consideration 6: Is recruitment strategy designed to support the firm's structural typology and culture?
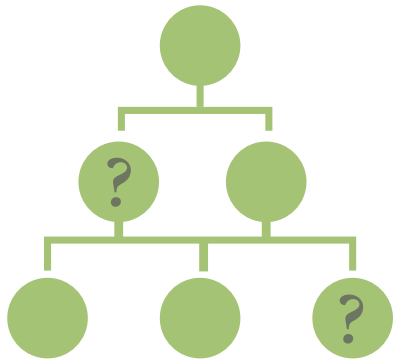
The first step to knowing if a job candidate will fit in to the firm's culture is to understand the firm's structural typology. Individuals tend to subscribe to typologies that align with their personality. Consider questions for interviewees that help determine collaboration preferences. Some individuals crave the type of authority accessible through title as seen in Eiffel Tower typologies. Some individuals prefer a less rigid way of executing projects that relies on teamwork and the collaboration of expertise as seen in Guided Missile typologies. Consider interview questions that seek to learn the types of rewards candidates see as motivation. Those less motivated by compensation and more motivated by results will likely thrive in an Adhocracy and Guided Missile typologies. Those motivated by the attainment of authority, self-improvement, and increased responsibility will be attracted by a Professional Bureaucracy or Eiffel Tower Typology. Questions that target behaviors indicative of the prominent typology may reveal levels of alignment with the organization.

Beware of group think. Consistently hiring based on structural and cultural fit is tempting but may lead to a homogenous environment. Divergent thinkers bring innovation and challenge. Diversify interview questions to include capabilities around role as well as business vision (Behave). The current, industry-wide conversation about equity, diversity, and inclusion is not directly addressed in this paper but must be given its proper place as a business imperative to be properly leveraged and managed through structural and cultural strategy (Behave).

Considerations

Consideration 7: Does the firm's growth strategy consider necessary structural typology shifts?
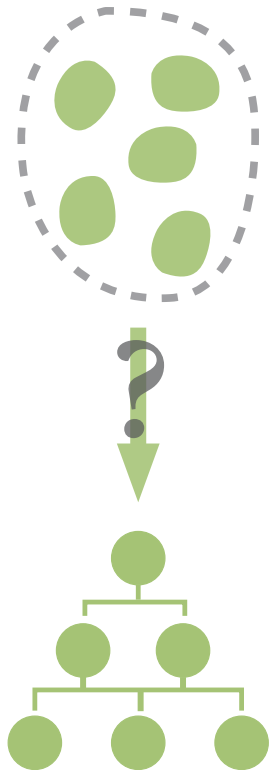
It is clear to see from the radar diagrams in Exhibit 9 that as firms grow and age, they lean away from a Simple/Incubator typology and the Adhocracy becomes more difficult to manage. The larger, older firms lean more towards the Professional Bureaucracy, Divisionalized Form, and Eiffel Tower Typologies. Each typology values different ways of motivating, rewarding, and respecting individuals. Understanding the current state is important to understanding a future state. Great care should be given to change management during growth. As Mintzberg warns, an emerging reputation of a particular product (market sector/client type) can lead to the temptation to bureaucratize to maintain control. Creativity, which Adhocracy depends on, will begin to diminish. "Creative ones, dislike both structural rigidity and concentration of power" (Mintzberg, page 460). Any growth strategy prioritizing business, projects, and people management equally will address structural typology adjustments. AF7 and AF8 both spoke to tactics that attempt to preserve autonomy and other Adhocratic characteristics at the project level within their divisions. In AF7, this takes the form of different kinds of leaders specializing in key areas of project success including "project management leads, technical leads, market leads, and design leads." Fracturing the Adhocracy into many Adhocracies across a Divisionalized Form requires a delicate balance between the two seemingly contradictory forms emphasizing close management of constant communication and clear expectations.
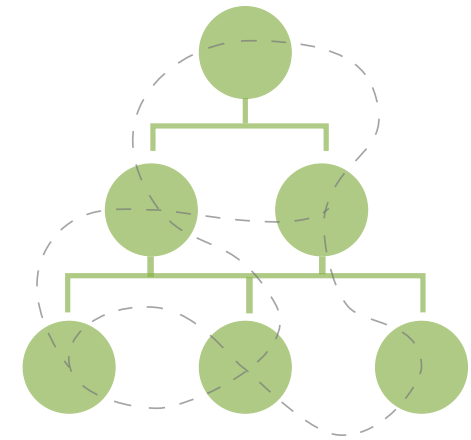
The most cited factor for a potential, future change of structural typology in the firms interviewed was a change in ownership. While this certainly applies, evidence would suggest that project type, firm size, level of communication, value of close relationship, employee incentive/reward/motivation, and other factors directly linked to strategic business/project/ people management are major factors in the application and evolution of structural typology.

Communication and intentional oversight are critical to alignment between structural typology and cultural vision. As Peter Drucker famously posited, "Culture eats strategy for breakfast." Awareness of the implications of each structural typology is necessary to properly manage and achieve a cultural vision. A cultural vision mismatched by structural typology will be rife with confusion from employees. Prevention of burnout and overwork begins with choosing a structural typology in alignment of business, project, and people management.

Mindset plays a role in the culture resulting from structural typology. Problem solving versus goal setting implies different approaches to the project design process and can influence the effectiveness of teams. Problem solving (convergent reasoning seen in Professional Bureaucracy) implies one correct way to get to an answer. Goal Setting (divergent reasoning seen in Adhocracies) implies multiple paths might be taken to reach a common set of criteria (Mintzberg). Intentional encouragement of one type over another by team management implies a certain typology and culture. Alignment between mindset and structural typology will impact human behavior on teams.

As the industry continues to lean heavily towards structures emphasizing human relations (Lawrence and Lorsch), participative management is critical to the success of structures employing teams to achieve goals. Techniques seen in participative management include "securing the participation of lower echelons in solving the organization's problems and fostering more openness and trust among individuals and groups" (Lawrence and Lorsch, page 179). As evidenced by the functions of Guided Missile and Adhocratic typologies, the concept applies to all three types of management identified: business, project, and people.

We would be remiss not to reflect on the things that have changed in work environments since the time when the structural typologies explored in this paper were born, chiefly the rise of information and technology, the metaphorical shrinking of the world, and access to different views, perspectives, and cultures. After studying these frameworks and challenging their relevance 50-60 years later, the item that seems more important, in this

author's opinion, is the one thing that remains constant: the human element in the workplace. Human behavior is what holds the frameworks and typologies together, makes them function, and is the source for their existence. These frameworks are still useful and relevant when discussing organizational structure and culture despite modern advancement in how we work because of the influence of human behavior on their formation.

The international working world now struggles with implementing hybrid work environments in the wake of the COVID-19 pandemic. The new challenge is addressing increased need for communication and subsequently, an even larger emphasis on the acknowledgment of the human condition at work and the way humans interact within these frameworks. The frameworks provide clarity when discussing the pain points and areas of conflict that arise between them, as well as, discussing reasons certain implementations are successful regardless of the use of an all-digital, all-physical, or hybrid environment.

We began by questioning whether burnout and overwork are symptoms of organizational design and culture. After considering theories layered with real world examples, we can conclude that employee satisfaction, or an employee's interpretation of culture, may correlate with an alignment between the business, project, and people management strategies employed through the implementation of structural typology.
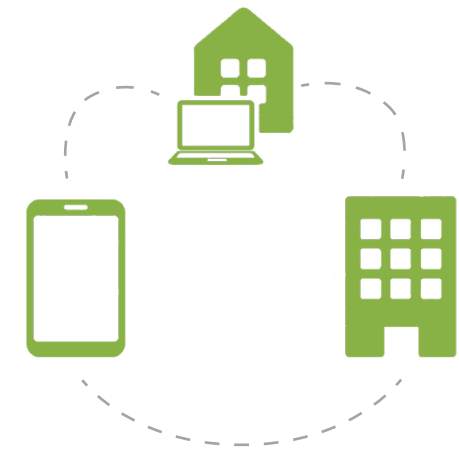
Author's Remaining Questions

- How is equity, diversity, and inclusion impacted by structural typology?

- What role does management skill play in the implementation of structural typology?

- How important is physical or digital location in reaching cultural goals or choosing structural typology?

- How does the structural typology of the profession as a whole influence practice on the firm and project team scale? Do the profession's Existential typology leanings impact future practice innovation?

- Does a change occur in academia to influence professional practice, or must change begin with professional practice so that academia may justify amending their methods?

A Few Conclusions

For those designing the structure and culture of organizations, there are no right answers, only the constant turning and tweaking of countless factors that contribute to organizational structure and culture. It begins with a strong, passionate vision for the business, the projects, and the people who exist within the business and execute the projects. Then a robust strategy to execute that vision that embraces all three. Attention to tactics used to implement the strategy is where the structure begins to inform the culture. Awareness of structural typologies, their interactions, conflicts, and implications can provide an understanding of consequences, intended and unintended. Intentionality, meticulous communication, and prioritizing human relationships will lead to the success of any organizational structure and culture.

Vision

Strategy

Tactics

Organizational Structure and Culture

Exhibit 1: "Mutual relations between organization culture and structure" (Janicijevic)
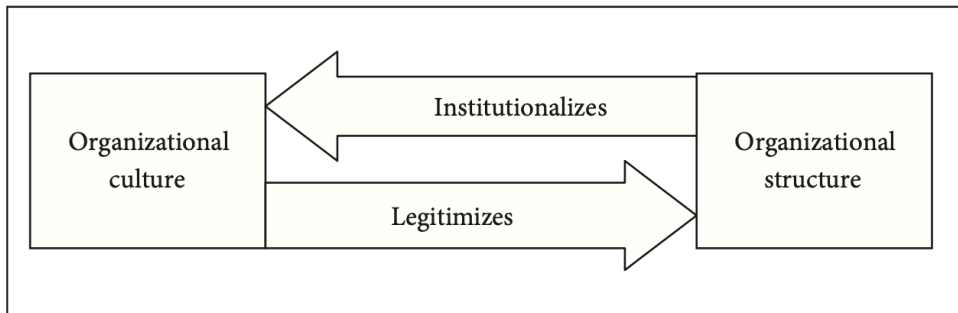
Exhibit 2: "Differentiation of organization structure types" (Janicijevic)

Centralization	Formalization	
	High	Low
High	Bureaucratic model	Simple model
Low	Professional model	Adhocracy model

Exhibit 3: "Mutual correspondence of organization culture types and organization structure models" (Janicijevic)

Distribution of power / Centralization level	Collective action frame / Formalization level	
	Work structure, tasks High formalization	Social structure, relations Low formalization
Authoritarian, hierarchical distribution of power	Role culture (H) 'Eiffel Tower' culture (T)	Power culture (H) Family culture (T)
High centralization	Bureaucratic model of organizational structure	Simple model of organizational structure
Egalitarian distribution of power	Task culture (H) 'Guided missile' culture	People culture (H) Incubator culture (T)
Low centralization	Professional model of organizational structure	Adhocracy model of organizational structure

Exhibit 4: Author's notes on Mintzberg's structural configurations (Mintzberg, pages 299-468)

| Structural Configuration	Characteristics (Mintzberg, pages 299-468) Consider in conjunction with Exhibt 3 (Janicijevic)	
Simple	• Coordination occurs mainly through direct supervision • Decisions are centralized • Considered informal and organic due to its lack of hierarchy, lose definition of roles and divisions, and absence of support staff • Little R&D, marketing research, or training • Accounting controls are rudimentary • Any structure may be unwritten but still understood • Found often in new or young organizations or owner-managed organizations • Characterized by entrepreneurial spirit, high risk, often niche loving environments	• Conflict can appear in the form of: "Centralization can also cause confusion between strategic and operating issues" • Risk and possibly restriction appear because there is so much dependency on one or few individuals making decisions • "Paternalistic, sometimes autocratic, accused of distributing organizational power inappropriately" • Sense of mission is strong • The intimate, small setting can be meaningful to employees and their relationships with each other and the goal of the organization
Machine Bureaucracy	• Specialization, formalization, routine, rules, repetition, standardization, and regulations are at the forefront • Functional grouping of tasks • "The Operating Core:" formalization is a key design component, little skill required, tasks are repetitive, jobs are narrowly defined • "The Administrative Component (Middle management:" exists to regulate the operations, handles conflict, implement standards, receives feedback, communicate with other functions • Decisions follow the hierarchy • Characterized by an "obsession with control" • Top management spends most of its time improving the machine as well as handling conflicts the rigid structure creates • Strategy emanates from the top down	• Formal communication is critical and takes place through committees and liaison positions • Found in mature organizations and mass production firms • Also found in "regulatory agencies, custodial prisons, police forces" • The repetition and subsequent lack of creativity at the operating core can be detrimental to employees and runs the risk of "destroying the meaning of the work itself" • Jobs in these environments are less and less desired (as of 1979) • "When in doubt, control." • The human element struggles to be seen and heard • Non-routine problems can turn into major crisis • Adaptation of operations and strategy are difficult due to the rigid hierarchy and linear movement of information
Professional Bureaucracy	• Standardization of skills, decentralization of decision making, training, indoctrination • "The professional works relatively independently of his colleagues, but closely with the clients he serves," ie. Teachers and their students • Characterized by heavy skills and knowledge training followed by on-the-job training with close supervision • Standardization of processes is complex, outputs are not easily measured. • Specialization arises out of necessity to coordinate tasks • "Diagnosis" of problems tells the structure which professionals need to be involved in serving clients • The operating core is central to the success of a professional bureaucracy and support staff exist to serve the operating core.	• "The professional tends to identify more with his profession than with the organization where he practices it" • The work of professionals is often too complex to be directly supervised so great autonomy is given • Resources and clients are the main reasons professionals organize into businesses • Professionals seek some control of administrative decisions that effect them. • Often seen as "bottom up" organizations • Power and respect come from expertise • The professional often depends on the administration to handle conflicts not directly relating to the practice of his craft • It is often difficult to unite employees behind a strategy given their individual autonomy to operate within the organization to serve clients

Structural Configuration	Characteristics (Mintzberg, pages 299-468) Consider in conjunction with Exhibt 3 (Janicijevic)	
Professional Bureaucracy	• Change must come from the bottom up with administrators there to assist • Appears in industries where skilled workers are the core of operations • Age and size of the organization are less significant • Often seen in professional service industries • Challenges can arise when work is dispersed farther away from the main administrative activities creating an increased emphasis on indoctrination for those who are dispersed • "Problems of coordination, of discretion, and of innovation that arise in these structures," are often overlooked. • The structure can struggle with professionals who are not	conscientious or incompetent • Inflexible and difficult to adapt to new standards • Innovation is a struggle due to the deductive rather than inductive reasoning often employed by professionals of this structure • Narrow spans of control are employed in attempt to exert control • Standardization tends to "discourage the professionals" due to "the complexity of the work and the vagueness of its outputs"
Divisionalized Form	• "A set of quasi-autonomous entities coupled together by a central administrative structure." • Seen largely in private sector companies and in many Fortune 500 companies, public government and education, and institutional sectors (*Note: As observed during the publication of Mintzberg's work) • Divisions are organized by market sectors or products with redundancy of operations within to limit interdependence between the divisions • Span of control at top management can be wide • Almost full autonomy can be given to the divisions with top management manages performance results of divisions • Coordination appears in the standardization of procedures and results • Machine structures can be found in the divisions with the division leader carrying a lot of the decision making responsibility • Operational, quantitative goals must be set for each division • Even if the goals are different, the metrics to measure success must be the same and are designed by headquarters • Communication between headquarters and divisions is formal and typically limited to results to avoid "meddling" • Headquarters manages the overall strategy and leverages the portfolio of divisions • As a result of the focus on market and product diversity, this form's range of application is narrower • "...works best in environments that are neither very complex nor very dynamic," similar to Machine • A hybrid structure is necessary in industries with difficulty in measuring accurate performance	• Typically found in larger, more mature organizations • Advantages include "efficient allocation of capital," possibilities to franchise, risk dispersement, "strategically responsive" • Training programs are critical to the success of individual divisions • Innovation is difficult as a result of the relationship between headquarters and the divisions • Headquarters must work to remain a relevant resource to the divisions • A focus on quantitative goals can overshadow less measurable indicators of success such as "pride in work, customers well served," motivation, and job satisfaction • Intrinsic to the form, managers are encouraged to ignore the social environment of the workplace and public relations • Power can often become centralized into fewer hands at the headquarters and division scale - this can threaten an external grab for power in the form of unions • Mintzberg posits this form is unstable, has the narrowest range of applications, and finds itself pulled in the direction of other forms

Exhibit 4 (continued): Author's notes on Mintzberg's structural configurations (Mintzberg, pages 299-468)

Structural Configuration	Characteristics (Mintzberg, pages 299-468) Consider in conjunction with Exhibt 3 (Janicijevic)
Ahocracy	- Capable of "sophisticated innovation,... able to fuse experts drawn from different disciplines into smoothly functioning ad hoc project teams." - Mintzberg warns that adhocracy is the newest and least studied - The most complex, least ordered, highly organic, low formalization, highly specialized, low standardization, selectively decentralized - Communication and liaison devices are critical to coordination - Jobs transform and responsibilities shift constantly - Activities, lacking repetition, cannot likely be organized neatly enough to warrant rigid configurations "Least reverence for classical principles of management" - Requires experts, highly developed skills, and expertise in individuals that can wield power - Typically utilizes a matrix structure - Narrow span of control results in the abundance of many types of managers: functional, integrating, project - The Operating Adhocracy is focused on solving problems for clients. Goal oriented (divergent)rather than problem oriented (convergent) like the Professional Bureaucracy "The Administrative Adhocracy undertakes its projects to serve itself." It operates independently from the rest of the organizations Adhocracy to push the whole. It can even be outsourced or automated. - Managers behave more as peers to project teams to effect coordination, wielding interpersonal skills rather than decision making power - Project level strategy is actively formulated by individuals and their decisions - Organizational strategy is largely impacted by the types of projects undertaken - Combines, "organic working arrangements... with expert power." - Top management spends a good bit of time monitoring projects and liaising with the external environment (such as in consulting) - Managers cited workload as one of the most common "human problems" along with projects that last too long or too much time between projects "Conditions of the environment are the most important ones.... specifically... an environment that is both dynamic and complex." "Conditions of the environment dictate the parameters of the structure." - Divisionalized Adhocracy appears when an organization is divided by region and by market sector - Variety of products draw individuals to adhocratic organizations - Adhocracy is typically seen in younger organizations and as these organizations grow, they are often forced to bureaucratize. This bureaucratization is driven by an emerging reputation of a particular product of the organization, leading to repetition. - Adhocracies are particularly sensitive to the economic environment "Creative ones, dislike both structural rigidity and concentration of power...." leading them to believe in the democratic ways of Adhocracy - Ambiguity abounds in job design, role definition, and authority - Conflict is less managed and more directed to productivity - High inefficiencies arise in the cost of communication. "People talk a lot in these structures; that is how they combine their knowledge and develop new ideas." - Inefficiency finds recuperation: "Widespread participation in decision making ensure widespread support for the decisions made." - Another source of inefficiency is unbalanced workload - Mintzberg warns against the temptation to transition an Adhocracy to bureaucracy because creativity will begin to diminish

Exhibit 5: Author's notes on Handy's cultural typology characteristics (Handy, pages 13-59)

Cultural Typology	Characteristics (Handy, pages 13-59) Consider in conjunction with Exhibit 3 (Janicijevic)
Club (Zeus)	• "Division of work based on functions or products" • Making quick decisions is of high importance • Often found in small, entrepreneurial businesses • Face to face relationships with customers, high empathy • Decentralized decision making • Entry into the club typically requires personal relationship • Trust is essential because formalization is low • Fast communication • Risk taking, individuals are experimental • Learning can take place in an apprenticeship-like way • Charisma and credibility are main factors of influence • Change comes by exchanging people • Monetary reward may be preferred, also resources and challenges
Role (Apollonians)	• Emphasis on the definition of roles and responsibilities, not personalities • Silos of roles are overseen by management • "Stability and predictability are assumed and encouraged" • Impersonal with an emphasis on efficiency • Slow to adapt to change • High formalization • Seen in monopolistic environments such as local government and civil services • Individuals are scientific and procedural • Authority is allocated based on acquisition of skill • Position and title give power • To facilitate change, adjust roles and responsibilities or the procedures • Individuals are comforted or motivated by predictability and ability to fill the obligations or their role • Individuals have a contractual or transactional mindset • Reward in the form of authority and its subsequent title and status symbols
Task (Athenians)	• Exists for the purpose of "Continuous and successful solution of problems" • Knowledge, expertise, creativity are valued above age or tenure • Teams are constantly formed and reformed based on project needs • Motivation comes from the drive towards a common goal • Predictability is a demotivator to members of task culture • Work requires highly-skilled or knowledgeable experts, therefore; • Industries utilizing task culture are often expensive and sensitive to economic volatility • Low formalization, especially within teams • At high risk of becoming role culture should outside factors challenge price or timeline of products • Authority comes from respect of those in command and the exercising of it must be socially acceptable • Change comes by changing the problem to be solved • Management challenges are identified and committees are often assigned to the problem, however these groups tend to have little influence because they lack overlap with the formal authority • Variety and self-improvement motivate individuals • Individuals prefer definition around task rather than role • Reward comes in the satisfaction of results
Existential (Dionysians)	• "The organization exists to help the individual achieve his purpose" • "Management is a chore" • People in this culture "recognize no boss, although they may accept coordination for their own long-term convenience." • Individuals often identify themselves by their trade • Talent and individuality are highly valued • Individuals learn through immersion • Individuals respect individuals and see themselves working "for the organization (as opposed to in it)" • Individuals are motivated by unpredictability and freedom • Change requires negotiation, give and take • Individuals are motivated by making large scale impact • Value is placed on personal freedom • Reward is experienced in results of personal interventions and recognition is not necessary • It is difficult to talk much to a shared culture in this typology because the typology, by definition, consists of avid individualists, not likely to subscribe to an organization
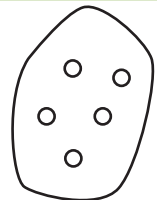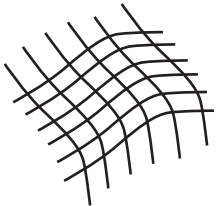
Exhibit 6: Characteristics of the four corporate cultures (Trompenaars, page 178)

Characteristics of the four corporate cultures

	Family	Eiffel Tower	Guided missile	Incubator
Relationships between employees	Diffuse relationships to organic whole to which one is bonded.	Specific role in mechanical system of required interactions.	Specific tasks in cybemetic system targeted upon shared objectives.	Diffuse, spontaneous relationships growing out of shared creative process.
Attitude to authority	Status is ascribed to parent figures who are close and powerful.	Status is ascribed to superior roles who are distant yet powerful.	Status is achieved by project group members who contribute to targeted goal.	Status is achieved by individuals exemplifying creativity and growth.
Ways of thinking and learning	Intuitive, holistic, lateral and error-correcting.	Logical, analytical, vertical and rationally efficient.	Problem-centred, professional, practical, cross-disciplinary.	Process-oriented, creative, ad hoc, inspirational.
Attitudes to people	Family members.	Human resources.	Specialists and experts.	Co-creators.
Ways of changing	"Father" changes course.	Change rules and procedures.	Shift aim as target moves.	Improvise and attune.
Ways of motivating and rewarding	Intrinsic satisfaction in being loved and respected.	Promotion to greater position, larger role.	Pay or credit for performance and problems solved.	Participating in the process of creating new realities.
	Management by subjectives.	Management by job description.	Management by objectives.	Management by enthusiasm.
Criticism and conflict resolution	Turn other cheek, save others' faces, do not lose power game.	Criticism is accusation of irrationality unless there are procedures to arbitrate conflicts.	Constructive task-related only, then admit error and correct fast.	Must improve creative idea, not negate it.

Exhibit 7: Author's notes on Trompenaars' cultural typology characteristics

Culture	Characteristics (Trompenaars, pages 156-177) Consider in conjunction with Exhibit 3 (Janicijevic)	
Family	• Power oriented to one "patriarchal" figure • Close relationships • Over delivery of expectations • Pleasing of superiors • Can be accidentally exclusionary of strangers due to internally understood traditions and customs • The power figure is considered in every decision whether present or not	• Power of the leader is political and legitimized by followers rather than role oriented • Intuitive knowledge of the individual is valued over rational knowledge • Bottom-up change is unlikely due to power dynamics • Appreciation and praise is motivational, effectiveness over efficiency, public criticism is discouraged
Eiffel Tower	• Labor, roles, and functions are determined in advance by the top of the hierarchy • Supervision is immediate to the level below • The boss is obeyed on the premise that it is their prescribed role to instruct • Roles, rather than individuals, are emphasized • Authority is determined by role • Status remains at the workplace • Rules, rather than followers, give power • Personal relationships are discouraged to prevent personal bias when evaluating performance	• Challenging for innovative tasks • Procedure conformance and benchmarks measure success • Skill acquisition is role specific • Employees are treated similarly to other non-human assets • Adaptation to changing environments is difficult and comes in the form of changing rules and role requirements (structure is heavily effected) • Employees are "meticulous and precise" • Lack of order causes uneasiness • Duty is motivational
Guided Missile	• "Egalitarian, …Impersonal, … Task oriented" • Roles are not determined in advance and goals are typically undertaken by teams • Tasks are project specific and often determined on a case by case basis • Projects require several kinds of cross-disciplinary expertise • Relative contributions of individuals are unknown • Success is measured by team contributions and outcome; outputs can not necessarily be quantified • Groups often have coordinators that are generalists who rally the specialists • When superimposed on Eiffel tower culture, a matrix organization is formed	• End goals rarely change however, teams use feedback to make adjustments to direction • Appraisal often comes from peers • Successful members are problem-centered and team players • Turnover can be high due to the dissolving and reforming of groups around project targets • Guided missile cultures are nimble and can adapt quickly to changing environments • Motivation is typically intrinsic • Consensus is important to levels of commitment
Incubator	• "Organizations are secondary to the fulfillment of individuals" • Personal and egalitarian • Often no structure exists • Typically focused on developing innovative products or services • Minimal hierarchy exists and individuals command authority based on their contributions to the creative environment • "Environment of intense emotional commitment" • Motivation comes from a higher calling to exact world change or a shared problem	• Close relationships encourage honesty and effectiveness. • "Typically limited in size by the leaders' span of control" • Spontaneity of communication often maxes out at 75-100 people • Often seen in start ups • Power is not a motivator, rather participation in problem solving and contributing to the creative process • Leadership is achieved; power plays are often not tolerated

Exhibit 8: Anonymous Firm Profiles

Firm Designation	Year Founded	# of current employees	# of locations	Primary Project Types
AF1	2019	7	1	Public and commercial, adaptive re-use
AF2	2018	10	0*	Multi-family and affordable housing
AF3	1984	17	1	Cultural, commercial, civic, retail private residential, religious, and educational
AF4	1991	23	1	Educational, commercial, civic, mixed-use, retail, recreation, judicial
AF5	2010	56	1	Multi-family, hospitality, community, adaptive reuse, custom residential
AF6	1977	65	2	Healthcare, commercial, government/civic, public safety
AF7	1976	290	10	Corporate, healthcare, higher-ed, justice, K-12 education, sports
AF8	1966	408	5	Healthcare, retail, office, community, education

* AF2 was founded as and remains a fully remote environment.

Exhibit 9: Interpretation of Anonymous Firm Typologies: Radar Diagrams (author's illustration)

Radar Diagrams: Anonymous Firm 1
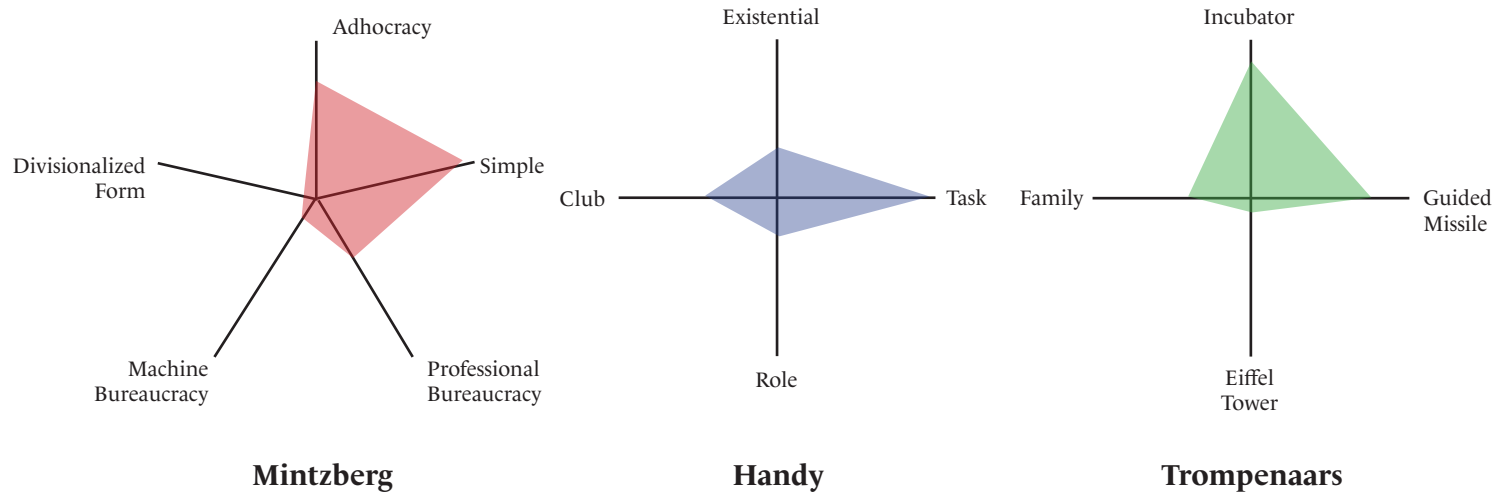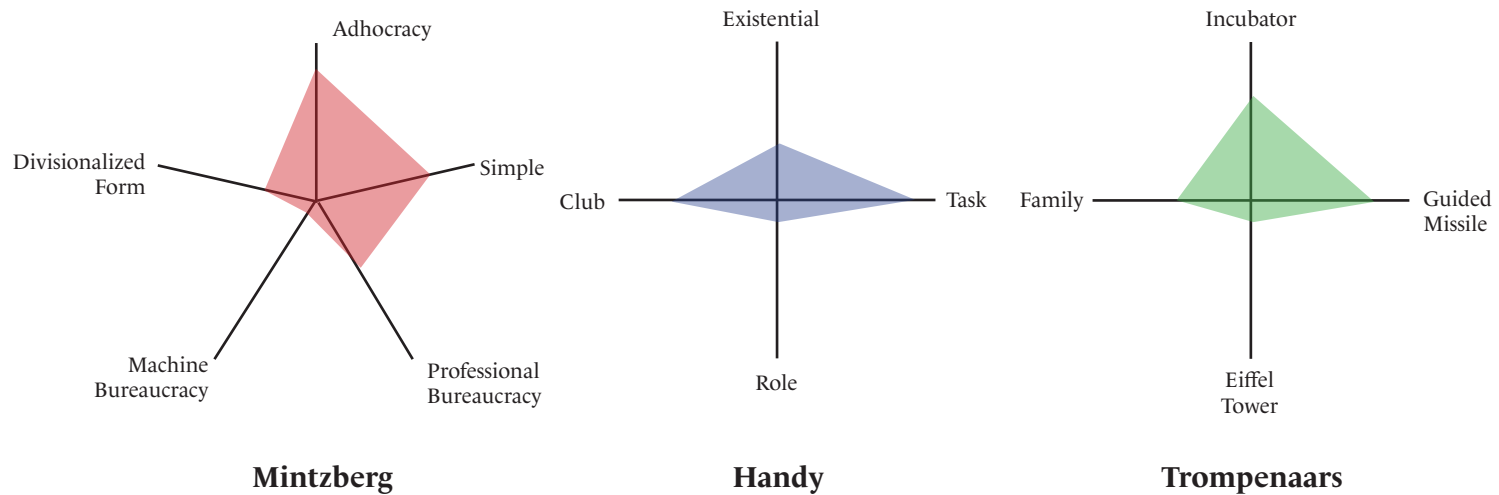
| Mintzberg | Handy | Trompenaars |

Radar Diagrams: Anonymous Firm 2

| Mintzberg | Handy | Trompenaars |

Radar Diagrams: Anonymous Firm 3

| Mintzberg | Handy | Trompenaars |

Radar Diagrams: Anonymous Firm 4
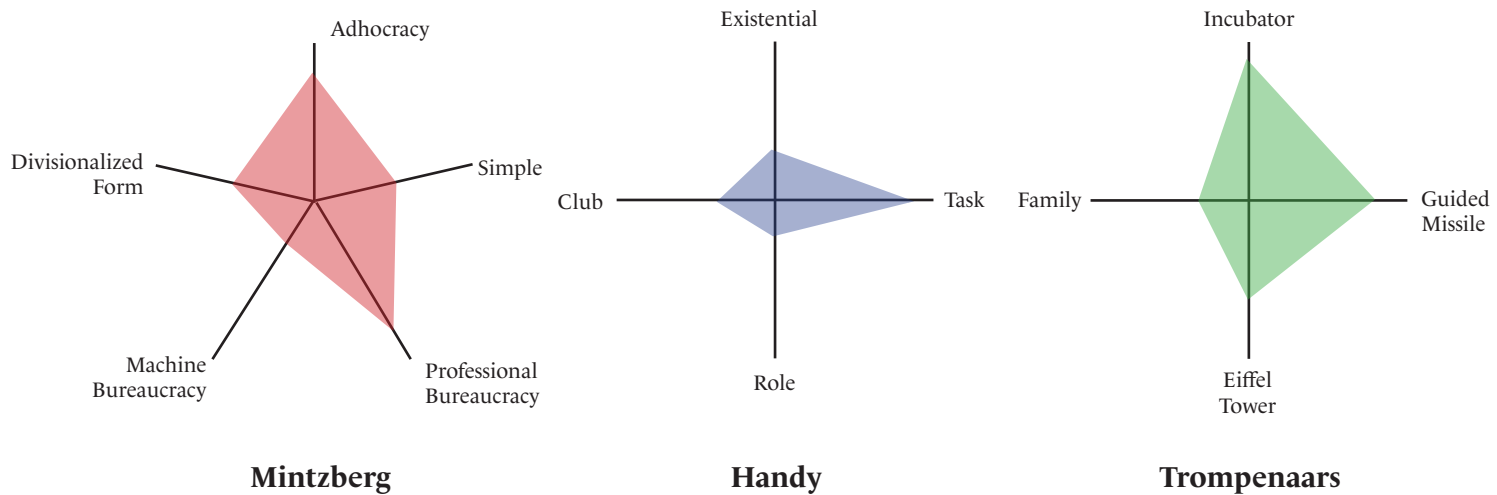
| Mintzberg | Handy | Trompenaars |

Exhibit 9 (continued: Interpretation of Anonymous Firm Typologies: Radar Diagrams (author's illustration)

Radar Diagrams: Anonymous Firm 5
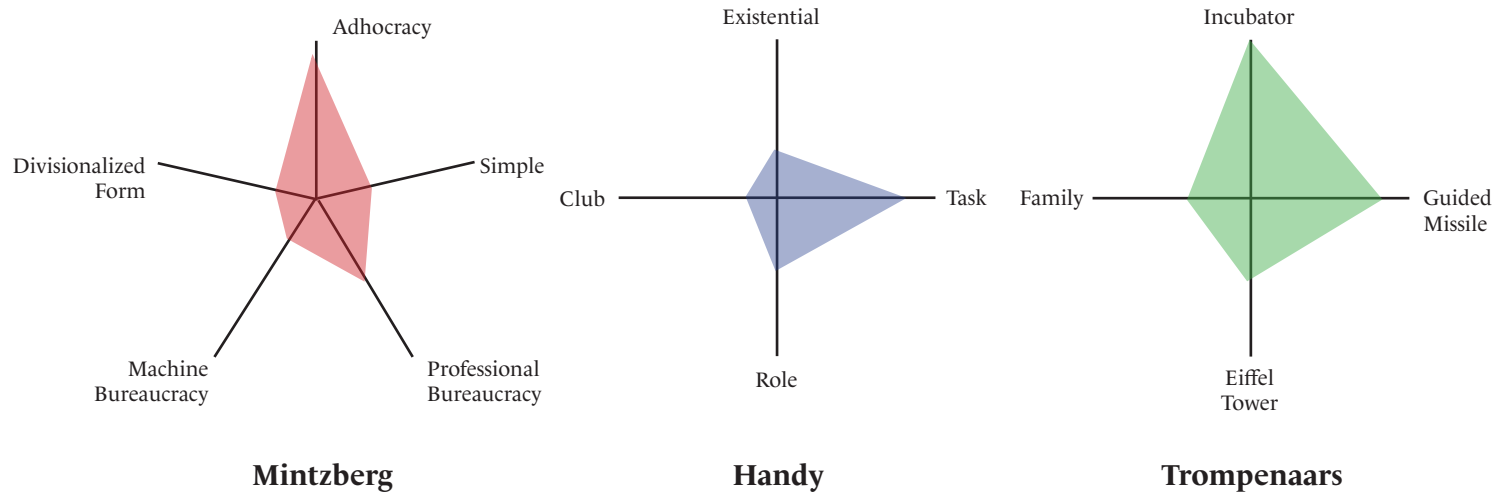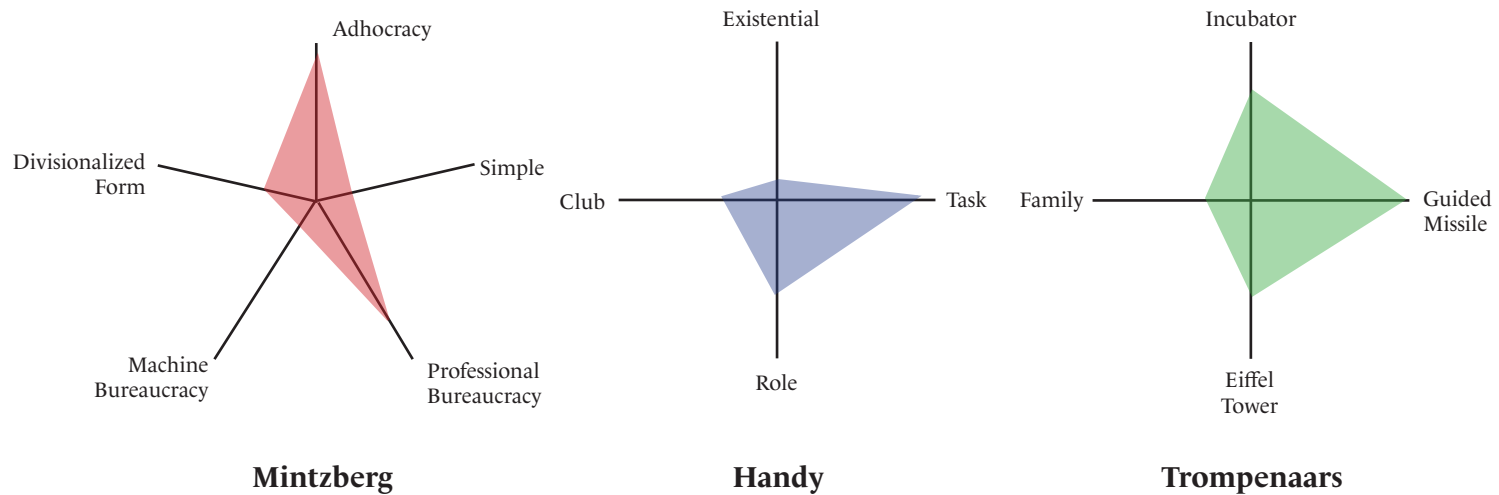
| **Mintzberg** | **Handy** | **Trompenaars** |

Radar Diagrams: Anonymous Firm 6

| **Mintzberg** | **Handy** | **Trompenaars** |

Exhibit 9 (continued: Interpretation of Anonymous Firm Typologies: Radar Diagrams (author's illustration)

Radar Diagrams: Anonymous Firm 7

| **Mintzberg** | **Handy** | **Trompenaars** |

Radar Diagrams: Anonymous Firm 8

| **Mintzberg** | **Handy** | **Trompenaars** |
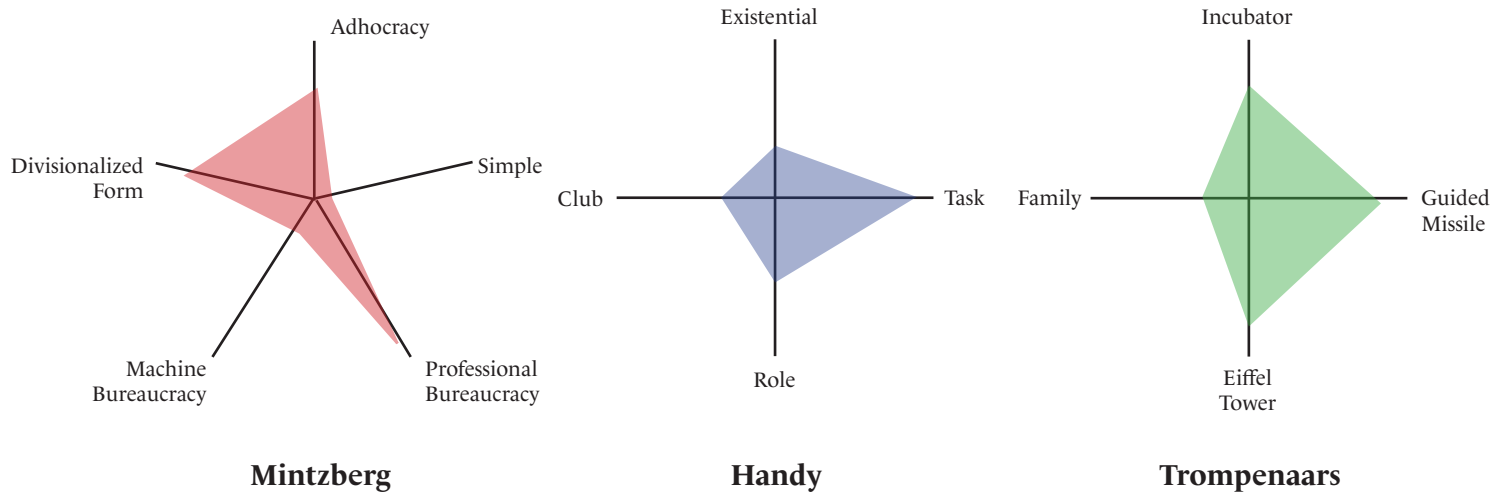
Exhibit 10a: Share of architectural firms, staff, and billings by firm size (Baker, et al).
*Note: It is unclear in the report if respondents to this survey are self-selected members of the American Institute of Architects

FIGURE 1.2A: **Firms with 50+ employees account for half of revenue and staffing nationally**
Percent of all firms, staff and gross billings by firm size for 2019

■ 2019 share of firms
■ 2019 share of staff
■ 2019 share of billings

Small firms (1-9 employees): 75.2%, 18.0%, 12.8%
Midsize firms (10-49 employees): 18.5%, 30.0%, 38.1%
Large firms (50 or more employees): 6.3%, 51.9%, 49.1%

Exhibit 10b: Excerpt from AIA Firm Survey Report 2020 (Baker, et al).

Table 1.4		All firms 2015	All firms 2017	All firms 2019	Firm size (number of employees at office) (2019)							Firm specialization (2019)			
					1	2-4	5-9	10-19	20-49	50-99	100+	Residential	Commercial/ Industrial	Institutional	Mixed
Which option most closely matches your firm's legal structure?	S Corporation	27%	29%	35%	17%	38%	46%	45%	51%	27%	47%	30%	39%	39%	32%
	Limited Liability Company (LLC)	20%	20%	21%	23%	24%	21%	17%	16%	19%	0%	26%	23%	15%	15%
	Sole proprietorship	22%	22%	18%	44%	13%	7%	4%	2%	0%	0%	24%	15%	11%	28%
Percent of firms	Professional Corporation (PC)	10%	9%	10%	4%	10%	11%	15%	13%	27%	0%	9%	8%	14%	3%
	Professional Limited Liability Company (PLLC)	7%	6%	6%	8%	6%	6%	6%	4%	4%	0%	5%	5%	7%	15%
	Partnership	3%	3%	3%	1%	5%	4%	2%	6%	4%	0%	3%	6%	3%	0%
	Employee-owned general business corporation (Inc.)	0%	0%	2%	1%	1%	1%	5%	4%	12%	20%	1%	2%	5%	3%
	Limited Liability Partnership (LLP)	2%	2%	2%	1%	2%	1%	3%	3%	4%	13%	1%	0%	3%	1%
	Other	1%	2%	2%	1%	2%	1%	3%	2%	4%	20%	0%	2%	4%	3%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Exhibit 10c: Excerpt from AIA Firm Survey Report 2020 (Baker, et al).

Table 1.13		All firms 2015	All firms 2017	All firms 2019	Firm size (number of employees at office) (2019)							Firm specialization (2019)			
					1	2-4	5-9	10-19	20-49	50-99	100+	Residential	Commercial/ Industrial	Institutional	Mixed
Including yours, how many permanent domestic offices does your firm have?	5 or more	19%	12%	10%	0%	0%	8%	7%	8%	17%	29%	2%	6%	15%	10%
	4	6%	8%	4%	0%	0%	4%	0%	8%	6%	7%	0%	4%	3%	0%
	3	12%	18%	12%	0%	0%	4%	11%	16%	22%	29%	0%	24%	15%	0%
	2	54%	53%	49%	25%	50%	63%	67%	62%	50%	14%	68%	49%	43%	50%
Percent of firms with multiple offices	1	9%	9%	22%	75%	40%	21%	15%	3%	6%	21%	22%	17%	21%	40%
	0	n/a	n/a	2%	0%	10%	0%	0%	0%	0%	0%	5%	0%	3%	0%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Average number of permanent domestic offices	8	4	3	1	1	2	3	3	4	6	2	3	3	3

Exhibit 10cd: Excerpt from AIA Firm Survey Report 2020 (Baker, et al).

Table 1.5		All firms 2015	All firms 2017	All firms 2019	Firm size (number of employees at office) (2019)							Firm specialization (2019)			
					1	2-4	5-9	10-19	20-49	50-99	100+	Residential	Commercial/ Industrial	Institutional	Mixed
Does your firm currently have an ownership transition plan?	Yes	n/a	n/a	23%	4%	6%	26%	48%	74%	88%	88%	8%	26%	40%	19%
	No	n/a	n/a	76%	95%	94%	73%	49%	25%	8%	13%	90%	73%	59%	81%
	Don't know	n/a	n/a	1%	1%	0%	1%	3%	1%	4%	0%	1%	1%	1%	0%
Percent of firms	**Total**	n/a	n/a	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

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