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Issues and Challenges of Starting a Civil Engineering or Surveying Firm in Mississippi

Bruce Eric Mainka

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Issues and challenges of starting a civil engineering or surveying firm in Mississippi

By

Bruce Eric Mainka

A Thesis
Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Master of Science
in Civil Engineering
in the Department of Civil Environmental Engineering

Mississippi State, Mississippi

December 2013

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2013

Issues and challenges of starting a civil engineering or surveying firm in Mississippi

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This thesis summarizes some of the challenges and risks faced by new civil engineering or surveying business owners, as well as, engineering managers in Mississippi. Additionally, this paper will cover how these business owners take on those business challenges to become and remain successful. The data covered represents answers from the owners asked via phone conversations. The number of twenty employees or less was the criteria for a firm to be considered small. It was decided that approximately 20% of the firms listed, or a total of 20, would statistically represent the current state of affairs of small to medium sized firms in Mississippi. The answers given from the firms are presented anonymously for this report.

DEDICATION

This thesis is dedicated to my friends and family. Without their support, I could not have completed this last item of a long list of requirements for completing graduate school. I would like to especially thank my parents, Rainer and Sandra, my wife Alicia, and my two sons, Will and Bryson.

ACKNOWLEDGEMENTS

I extend most gracious thanks to Dr. Seamus Freyne for convincing me to go to and complete graduate school at Mississippi State University.

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Finally, I thank the Dean of Engineering and the Bagley School of Engineering for the opportunity to learn about the mysteries of structural engineering.

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LIST OF TERMS

Entrepreneur

Client

Customer

General civil engineering

Start-up

Niche market

Word-of-mouth marketing, advertising, and recruiting

CHAPTER I

INTRODUCTION TO STARTING A FIRM

Achieving business ownership is part of the American dream. To start one's own civil engineering and/or surveying firm is going a step further. Merriam-Webster defines an entrepreneur as "one who organizes, manages, and assumes the risks of a business or enterprise" (Merriam-Webster, 2003). This thesis summarizes some of the challenges and risks faced by new civil engineering or surveying business owners, as well as, engineering managers in Mississippi. Additionally, this paper will cover how these business owners take on those business challenges to become and remain successful.

The data covered represents answers from the owners asked via phone conversations. The research showed that there are approximately 90 civil engineering/surveying firms in Mississippi most of which employ less than 20 people (www.manta.com). The number of twenty employees or less was the criteria for a firm to be considered small. Medium sized firms employed from 21 to 50 people and were usually a branch of a large firm. Large firms employed 51 or more people. Not all businesses were solvent when contacted, nor were all owners available for comment. Some even refused to answer some or all questions asked for this research. It was decided that approximately 20% of the firms listed, or a total of 20, would statistically represent the current state of affairs of small to medium sized firms in Mississippi. The

list of companies solicited for this survey is included in Appendix A. The answers given from the firms are presented anonymously for this report.

The list of questions asked of each owner is listed below in Table 1.

Table 1 Questions Asked to Firm Owners

Questions for Existing Engineering Firms

Company Name:

Date company started:

1. What services do you provide?
 2. What was your biggest business challenge during start-up?
 3. How did you raise starting capital?
 4. How did you find your niche market?
 5. How did you use your niche market to grow your company?
 6. What is your preferred method for reaching clients?
 7. Where is the location of your original business?
 8. Why did you choose this place?
 9. How far do you do work from your home office?
 10. Is there a job that would be too far away?
 11. Do you do business outside of Mississippi?
 12. Is there a job that would be too small or too big to bid on?
 13. What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?
 14. How do you as a business owner adapt to market-place changes?
 15. What was your 'lucky break'?
 16. What is a business decision that you made that you now may regret?
 17. Are there any government regulations or components of the MS legal system that hinders your business from growing?
-

Table 1 (continued)

-
18. Does your business have a website?
 19. What kind of credentials does your business operate under?
 20. How do you locate, hire, and keep talent on your work force?
 21. What is your competitive advantage? What sets you apart from your competition, other than “customer service”?
 22. How do you cope with the issues of “too much business” and “too little business”?
 23. What is your biggest challenge now?
 24. What do you see are your greatest challenges of the future?
-

These questions were obviously not set up in the form of “yes or no” answers and the data was collected in the tone and words of the owners. The answers appear to be candid and honest which was per the intent of this research. General graphical data of answers given will be presented in the following chapters in the form of bar charts and pie graphs displaying the answers given. The research covers the requirements of the State of Mississippi to legally operate a business and specifically the requirements to operate an engineering or surveying firm. The research delves into the challenges of the owners getting the funds necessary to start their business, how they developed their markets, what they do when business is slow, how they handle employees, what are their business challenges of the future, and more.

The paper will flow based upon the structure provided by the list of questions in Table 1 above. Each of the questions will be covered in its own section along with some other necessary information about civil engineering and surveying business ownership in Mississippi.

A complete detailing of the questions asked to each firm and the raw data of the answers the owners gave is provided in Appendix A. In Appendix B, each question is listed individually with all of the answers given from each firm presented below.

The research refers to clients and customers. These two terms are used interchangeably throughout this thesis and are generally defined. A particular difference between these terms is that a customer is usually involved in a one-time exchange of goods for money. A client is usually involved in long term interaction of services for money. Other than these specific characteristics, a customer and client are universally understood to be the same.

CHAPTER II
SERVICES PROVIDED

The first question of the survey asks the engineering or surveying owner, “What types of services do you provide?” The answers are displayed in the bar chart, Figure 1, below.

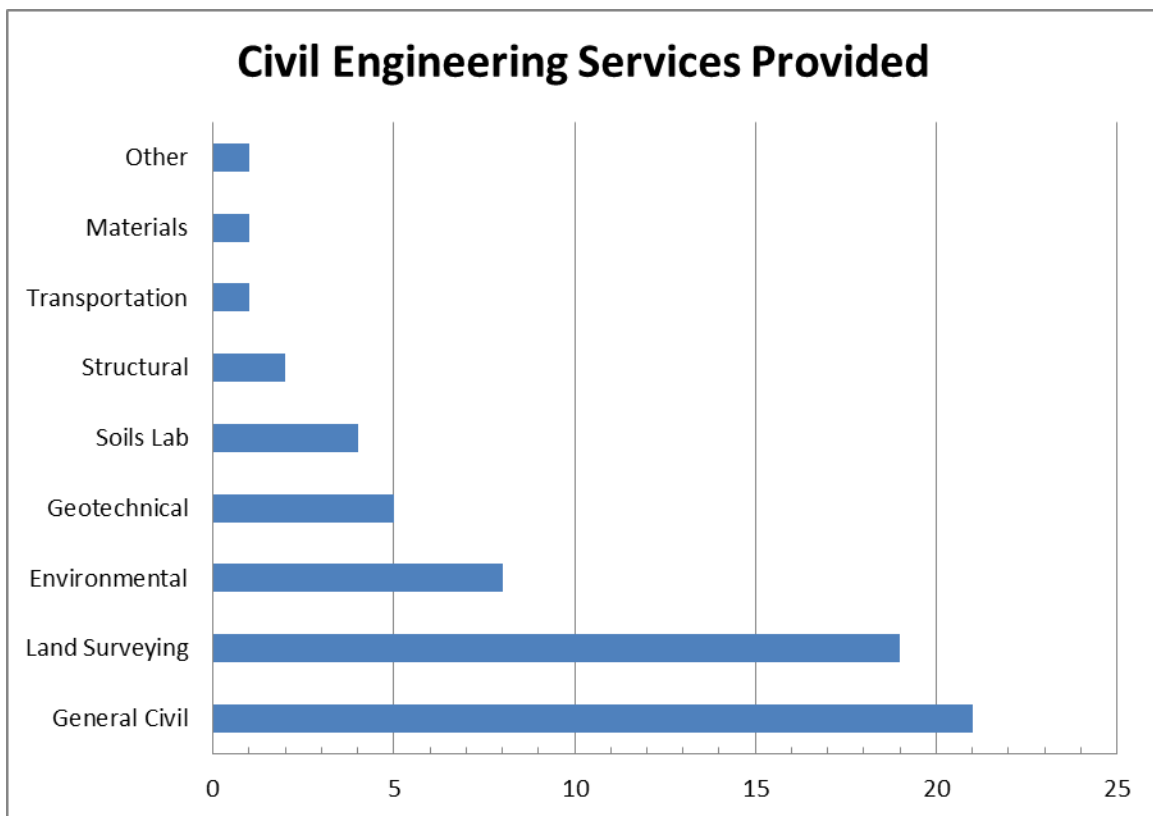


Figure 1 Engineering services provided

The great majority of services provided are contained within general civil work and land surveying. These data were sorted by answer rather than by firm because most firms offered more than one service. General civil services, land surveying, and environmental engineering account for 76% of all engineering services offered in Mississippi. As described by the Texas A&M civil engineering website, “General civil engineering services are loosely defined as planning, designing, supervising the construction of, operating, maintaining, inspecting, and managing many of the physical facilities and systems in both public and private sectors. These facilities include buildings, commercial facilities, industrial facilities, power transmission facilities, transportation facilities, tunnels, water collection facilities, water treatment facilities, and waste disposal facilities, to name a few. General civil engineers are often responsible for site design (grading), facility location studies, utility design, environmental compliance issues, code enforcement, public decision making, and project management issues” (Texas A&M Zachary Department of Engineering, 2010) (Texas A&M Zachary Department of Engineering, 2010).

The second question asks the owners what was their biggest business challenge during their initial start-up time. Start-up is defined as when an owner created a firm, bought a firm, or took over as manager.

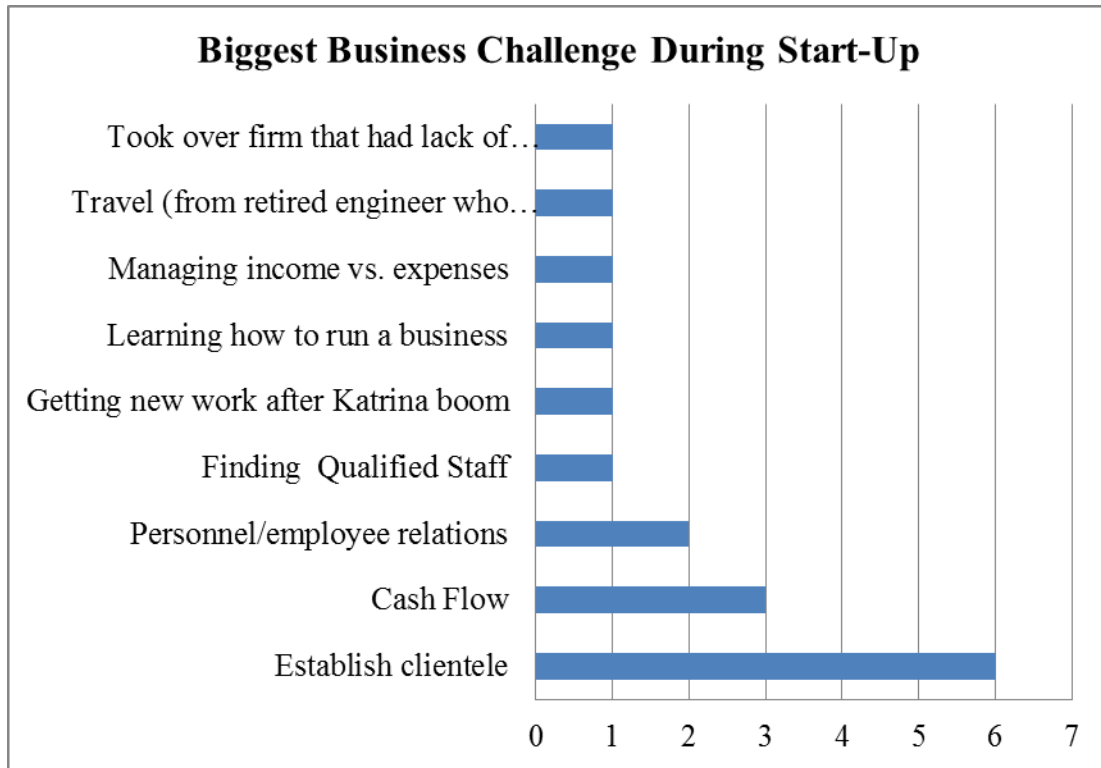


Figure 2 Biggest challenge during start-up

Firm owners considered acquiring start-up money and generating a consistent cash flow to sustain their new business the most concerning challenges. Added together, these two categories represent 53% of the answers given. Most of the owners already knew how to perform the engineering and/or surveying services, but faced the issues of getting started and keeping their business going. Approximately 35% of the surveyed firms managed to avoid this pitfall. They did so by purchasing an existing firm that was known for doing reputable work at a reasonable price and that had established repeat customers. Other new owners were relatives of the original owner of the established business. The transition between former and new owner in this case was much smoother and needed less starting capital. The Small Business Administration suggests that there

are several sources of funding the start-up of any small business. The first way is to use a bank which plays upon the idea of having a personal relationship with your local banker. Other options include “Friends and Family” banks and community development centers (www.sba.gov).

Since many of the owners replied that an expensive start-up cost was one of the biggest business challenges they faced, the next question dealt with that topic directly. Question three asks the new owners *how* they raised starting capital. The answers are displayed in Figure 3.

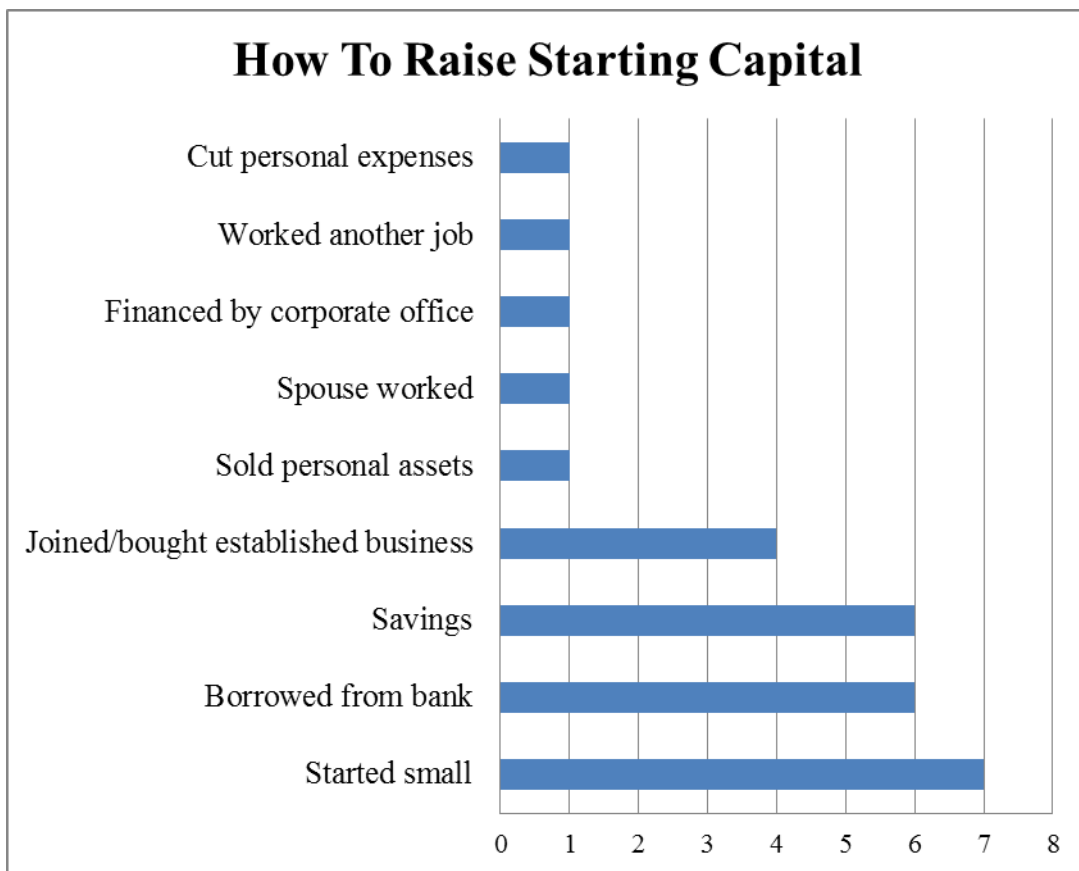


Figure 3 Methods of raising starting capital

The data shows that the most common strategy used by new owners in starting their business was to begin on a small scale. “Starting small”, being the most popular answer, can be looked at as “in addition to” using savings, living from spouse’s income, borrowing from bank, etc. A large majority of new owners, 73%, cited this approach to starting their business. Based upon these answers from currently successful owners, a crucial step to building a successful firm is starting small and not over-reaching one’s personal budget during the infancy of a firm. The Small Business Administration recommends analyzing one’s personal finances before trying to fund a business start-up. Any strain on your personal finances directly correlates to increased risk for your business’s success (www.sba.gov). Once starting capital was raised, the next challenge faced by these owners was bringing in enough work to sustain the business.

Question four asks the owners how they found their niche market. This question is in response to the answers given to the earlier question of start-up challenges. The owners agreed that getting enough customers and clients to sustain their business was the next big goal to achieve after raising the money to get started.

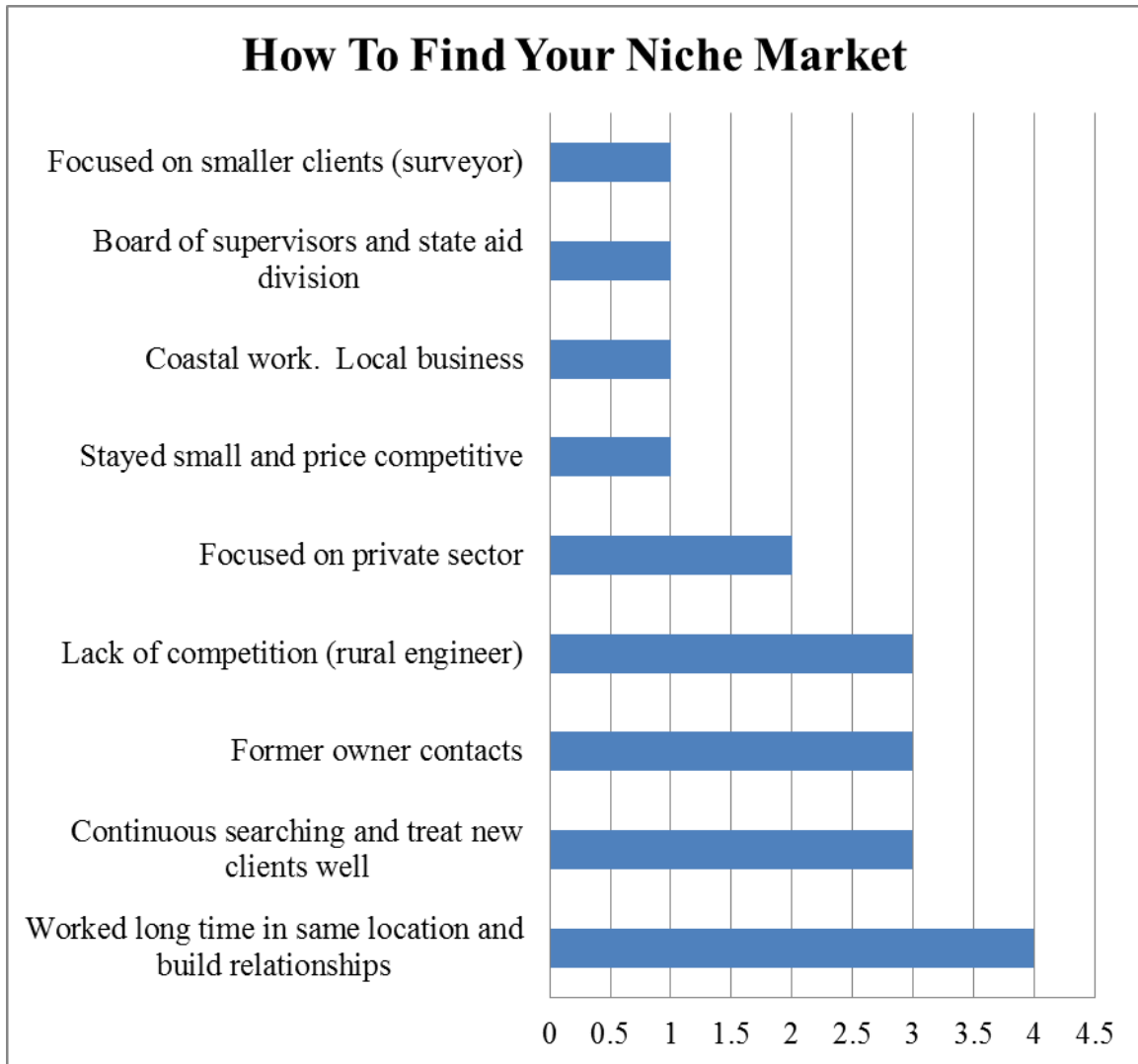


Figure 4 Finding the niche market

The new firm owners succeeded in sustaining their recent self-employment most often by building relationships with potential and established customers as quickly as possible. Over time these relationships not only sustained their businesses, but allowed for growth. This growth in turn allowed them to hire helpers and administrative staff and eventually other engineers.

New-comers were considered fortunate if they bought or inherited a firm that had an established clientele. This is the most desirable situation to have because it brings continuity during the transition of ownership. Customers can be viewed as a financial asset that should be managed, measured, and maximized like any other asset (Blattberg, Getz, & Thomas, 2001). In the case of buying an existing firm, the new owners stated that they wrote into the buying agreement that the former owner stay with the engineering or surveying service for a one or two year period. The intention was to grant the new business owner the time needed to validate himself or herself to the firm's existing customers while working with the established engineer or surveyor (original owner) so that when the original owner finally moved on, the new owner would have performed enough work as to be trusted by the existing customers. The owners interviewed also stated that performing the work was not necessarily enough to win over the firm's existing customers. They said that they not only had to perform the work at a fair price, but also had to develop a rapport with the customers. They had to build working relationships that involved personality, integrity, and, eventually, trust.

One owner mentioned that he regretted not changing the name of the firm when he bought it. The issue that developed for him was that people expected to see the former owner, especially since the name of the firm had the former owner's name in it. When intermittent customers found out that the preceding owner did not work there any more, they immediately questioned the ability of the new owner. He had to constantly deal with appeasing his new customer base until he could establish his reputation with them. This took time and could have possibly been avoided by implementing a smoother transition concept as the one mentioned in the previous paragraph.

Question five asked the owners how they used their niche market to grow their companies.

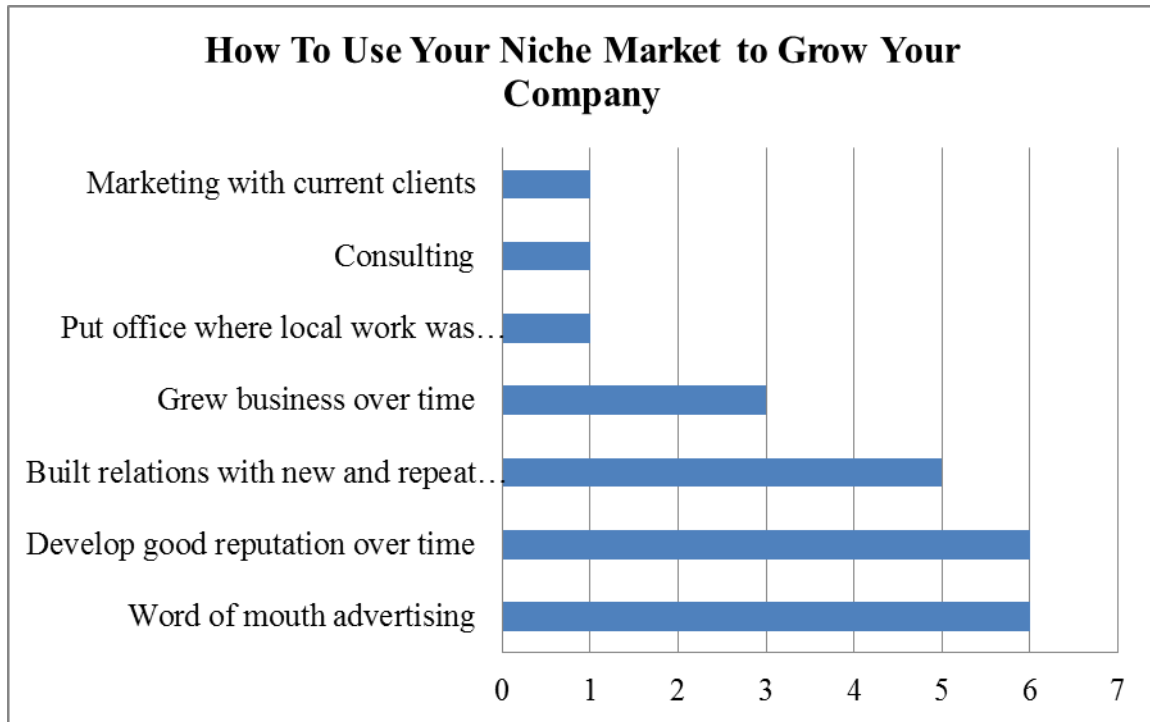


Figure 5 How owners used a niche market to grow their companies

The overwhelming favorite method for sustaining and growing their companies was developing customer relations based upon performance and price reputation. One owner stated that his secret to success was, “Stay in the same area for twenty years and do business.” This method absolutely relied on word-of-mouth advertising. Surprisingly few owners spent money on advertisements in the newspaper, yellow pages, or professional magazines. The vast majority of owners simply went about their day doing the best work that they could do for the best price for themselves and their customers.

“The rest just handles itself,” replied one owner.

The owners surveyed relied heavily upon word-of-mouth advertising to sustain their businesses. Repeat customers are driven by “satisfaction with the service given, therefore, word-of-mouth (positive or negative) can be seen as an integral part of the value the firm should associate with its customers” (Hogan, Lemon, & Libai, 2004).

Question six asks about the owners’ preferred methods for reaching new and established clients.

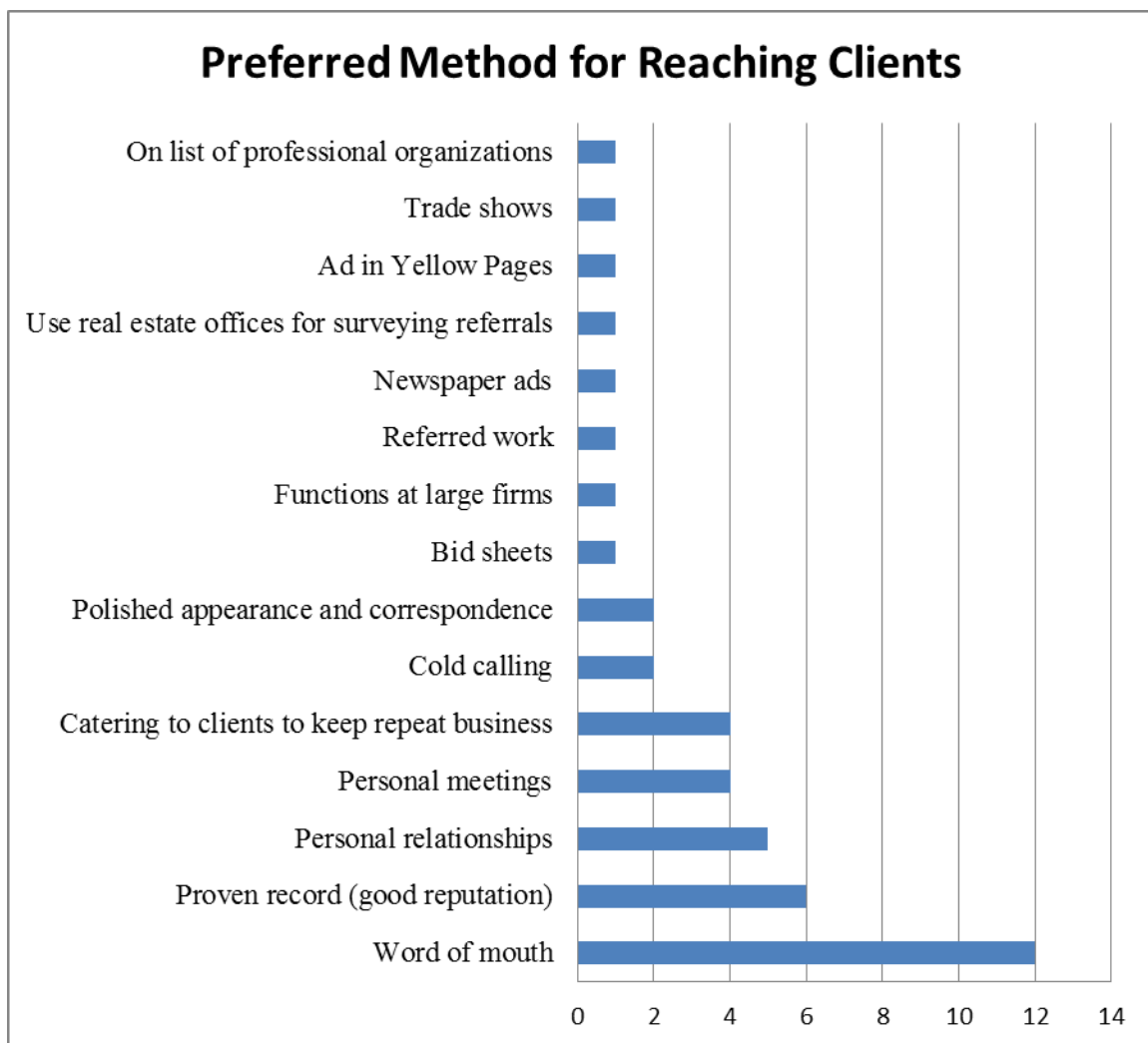


Figure 6 Preferred method for reaching clients

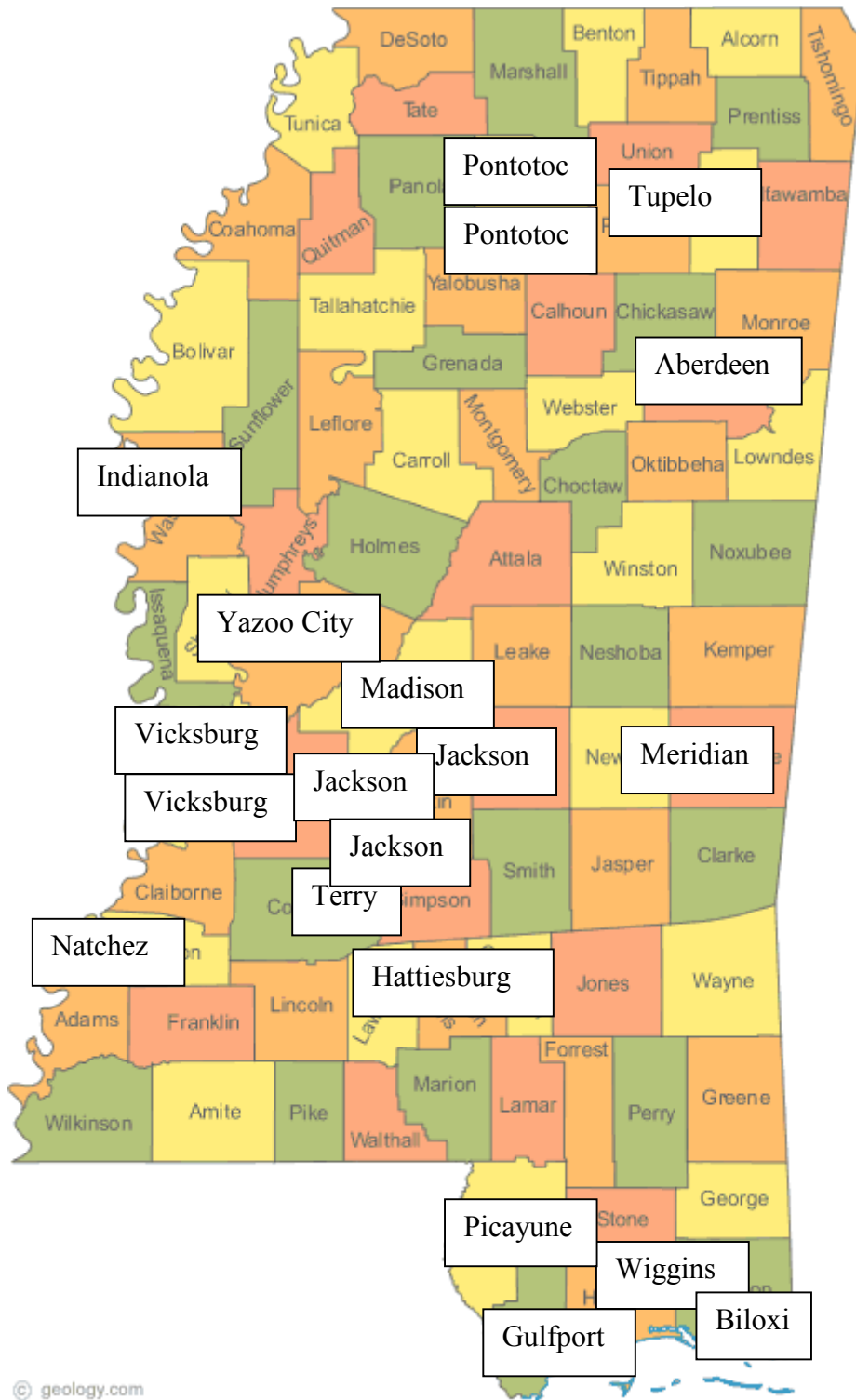
The preferred method for reaching clients goes in line with the methods these firms used to grow their business. “You cannot do business without paying customers,” stated one interviewee. These owners paid great attention to developing relationships with their clients. Building relationships was determined to be the key to sustaining and growing any engineering or surveying firm.

When asked about which kind of client they paid more attention to, the new client or the established client, nearly all of the owners replied that they are both crucial for their businesses, but they paid more attention to the established ones. It is more expensive to acquire new customers than it is to keep existing ones happy. Research shows that existing or long-term customers are six to seven times more valuable than new ones (Scott Gillum, 2011). Accruing repeat business caters to the developing of relationships by doing business in the same area over a long period of time. It also provides the impetus to sustain the income vs. expenses part of running a firm. Developing new clientele is the key to growing over time. As more and more customers transition from being new clients to established clients, the owners indicated that their businesses would be successful.

CHAPTER III

DECIDING BUSINESS LOCATION

Below is a map of Mississippi showing the locations of the firms that participated in this research. Question seven simply asked where is the location of the firm? The twenty companies interviewed are shown on the map. The geographic make-up of the companies surveyed is a fairly even distribution across the entire state. The only obvious region not to have input is extreme north Mississippi. This omission was not by design. Firms in this area were contacted, but did not participate for various reasons. The heavier populated areas were represented by several firms as indicated by the number of participants in the Jackson area and along the coast.



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Figure 7 Locations of firms that participated in this research

Question eight asks why the owner chose the locations of their business.

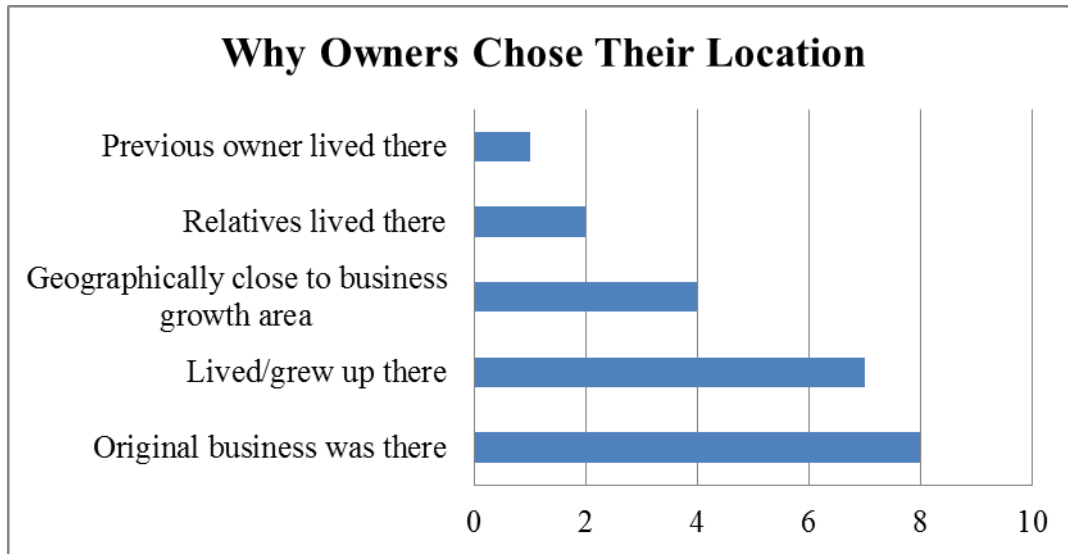


Figure 8 Why the owners chose their firm’s location

Most owners indicated that they either grew up in the city or within a county’s distance where they owned a firm. This attribute of the owners again falls in line with the part of the business marketing that clients must be able to trust the engineer or surveyor. If the clients or customers already know the engineer or surveyor - because they grew up together, for instance - marketing becomes much easier. The civil engineering firm that understands this has an advantage over the firm that does not understand it. The connection occurs again with word-of-mouth advertising and building relationships over time.

Several firms indicated that they target local people to hire, especially when it came to hiring engineers. Most firms are in small rural towns in Mississippi. The owners mentioned that it was difficult to get people who did not grow up in “small town”

Mississippi to move to “small town” Mississippi and then to *stay* in “small town” Mississippi. This may also be why many of the rurally located firms often hired their sons or their employees’ children after they graduated from college. The owners already knew them. The clients already knew them. There would be no surprises about the often slow paced life in a small town for the new hire. The likelihood of an owner’s son moving away for a bigger job was relatively small, especially when the son knew that one day he would step into the owner’s role of running the family business.

Other firm owners bought an existing firm that had established customers. This condition alone determined the location of the business. As mentioned before in this research, the new owner often required the former owner to stay on for a year or two so that the new owner could have a chance to develop relationships of his own. This would be a great deal more difficult without the presence and input of the former owner.

The next most common factor that determined location was the practice of large established firms putting a branch office strategically located where their marketing research showed that there was enough potential business to profit from offering civil engineering and surveying services. These branch offices had the financial backing of their parent company to help overcome the disadvantage of being new to the local engineering community. Because of this financial backing, they had a longer period of time to look for and develop new client relationships. They could also market their capabilities based on their parent company’s past performance and resources. These advantages coupled with the right manager proved to be a successful strategy for them.

Question nine references how far away from their home office are owners willing to take a job.

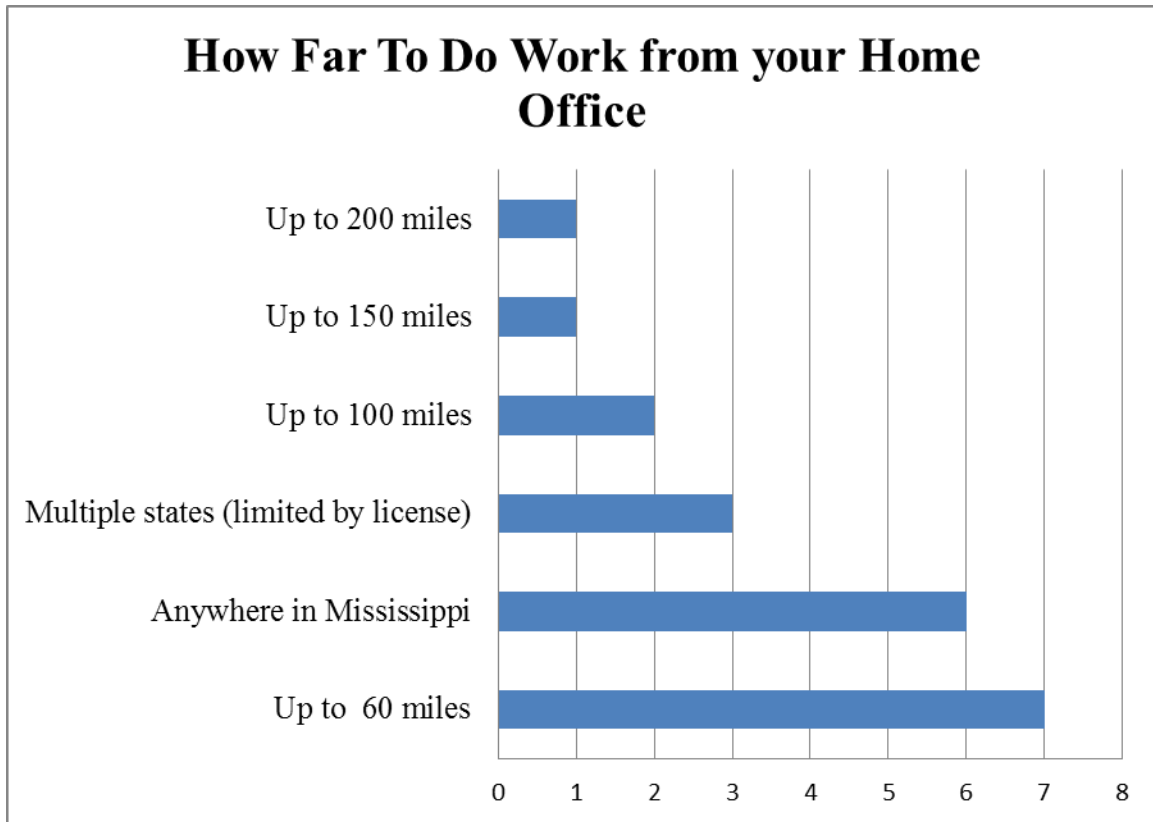


Figure 9 How far owners took jobs from their home office

Although most of the owners indicated that they would travel to “anywhere in Mississippi” to do a job, they really were not necessarily comfortable doing so. The most common answer given was within an hour’s drive or approximately 60 miles. When the job crossed the threshold of being “too far away” the bids for the job became too large and noncompetitive. The extra expenses included travel to and from the job location and possible hotel and food costs for employees.

Question ten asked the owners if there could be a job that was too far away for them to try to get it.

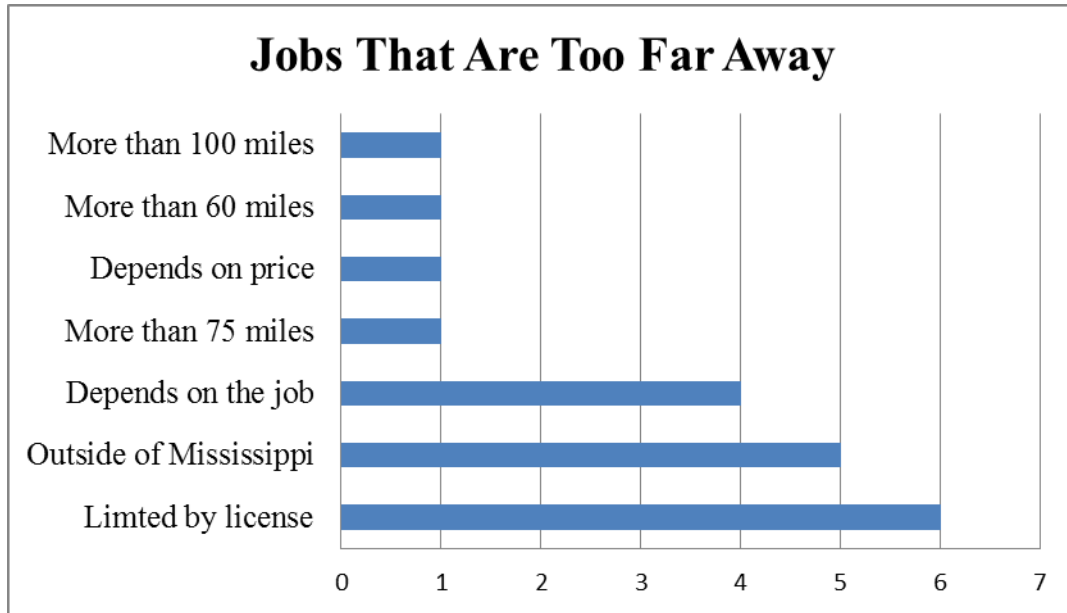


Figure 10 Jobs that would be too far away

The majority of answers indicated that if the price was right, they would travel anywhere that they were licensed to do the work. The owners said that realistically most of the work they did was within a few counties of their home office.

Some specialized firms had capabilities or knowledge that allowed them to cover the costs of travel to seek out jobs that were travel intensive. These jobs were limited only by the states of licensure of the professional engineer at that office. Branch offices of larger firms could afford to get bids that were farther away, even in other states, and then rely upon other branch offices for credentials or specialized services.

Question eleven goes a little further into the details of how far a firm will travel to do engineering and/or surveying work.

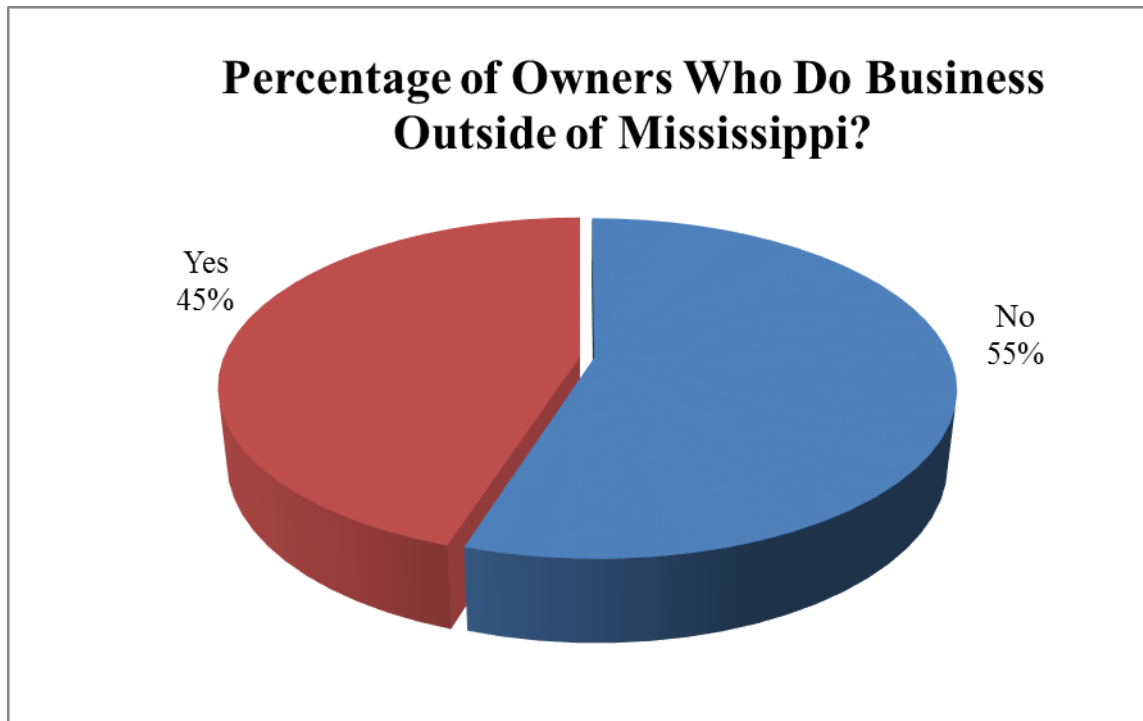


Figure 11 Percentage of owners who work outside of Mississippi

Although several of the firms solicited stated that they could go outside of Mississippi to do work, most of them only performed their services locally. The additional costs of travel made it difficult to win a distant job from local firms. The case of specialized engineering services or knowledge provided by some firms was a definite benefit. The extra money needed to cover travel expenses was not a deterrent in such cases. Employees with specialized skills increase the flexibility of requirements and allow a firm to reorganize their skill profile to meet changing needs (Mousumi Bhattacharya, 2005).

CHAPTER IV
BUILDING BUSINESS

Question twelve asks if there was ever a job that would be too small or too big to bid on.

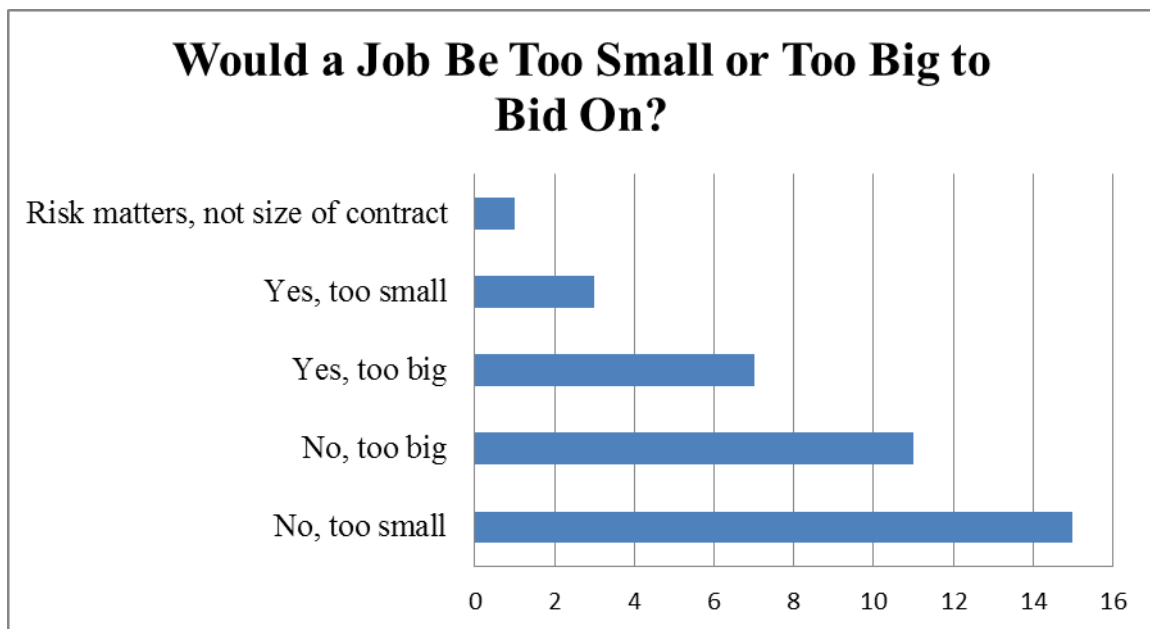


Figure 12 Jobs that would be too small or too big to bid on

Since this research focuses on small engineering and surveying firms, it is no surprise that most firms did not consider a job to be too small. Most would take the smaller jobs and try to finish it quickly as a marketing tool to build a relationship. The

amount of smaller jobs was generally more abundant than the larger ones, so the smaller firms took them to help sustain a steady work flow.

If a capable firm obtained a job that was too big for them, they would contract work to other engineers with whom they had a working relationship. The relationship building aspect of this career field extends past new and established clients and goes on to working with other established engineers. When asked how they chose the other firms or engineers, the owners replied that they sent work to those they knew and trusted to do a good job. They also said that they were contracted work from other firms from time to time because of their working relationship and reputation. This kind of system seemed to be universal amongst the firms contacted for this research. If they needed help, they “shopped it out”, or sub-contracted to another firm, and when they needed work, sometimes someone else needed help and would sub-contract work to them. It is common for smaller firms in times of growth to subcontract their overload of work to other firms (Arditi, 2005). The smaller firms did indicate that some jobs were just too big for them. In such instances they would move on to other jobs and not try to get into a job that would cost them their reputation.

The branch office firms could always rely upon their home office or other branch offices for extra engineering capacity, credentials, or specialty. These firms usually tried to get the larger jobs and did not bid on the smaller ones.

One owner explained that he takes risk into account before agreeing to do a job. He cited that in the past he has had clients that were difficult to work for and other clients who tried to sue for one reason or another. This owner purposefully did not try to do work for these clients or other potential clients who had this kind of track record, because

the risk to his business was too high. To him it was not so much about the size of the job, but the legal risk and potential damage to his professional reputation. Difficult customers take a toll on owners and employees and can cause staff burnout and turnover (Barden, 1998). Although there are documented techniques available to deal with difficult customers, this owner chooses to avoid these types of customers.

Question thirteen asked the owners about their business growth since they started, bought, or became manager of their business.

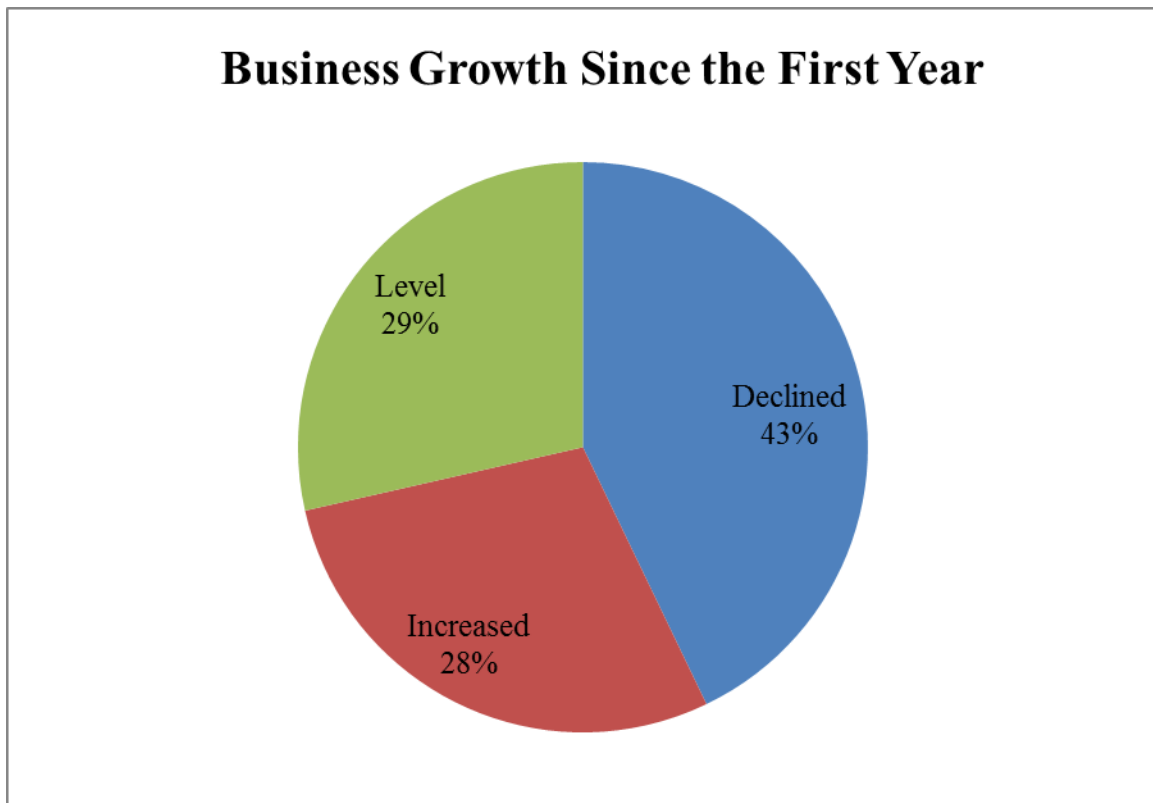


Figure 13 Business growth since inception

Of the owners who answered this question, nearly all of them stated that their business had grown and that they were making more money than when they started until the Great Recession started in 2007 - 2008. The recession was the cause of business decline of the firms that claimed their revenue had declined. The firms suffered monetarily, because their clients suffered. The money needed by clients to hire the firms dwindled with their businesses. Of the eleven recessions that the U.S. has had since 1948, this one has lasted almost three times the average 15.3 months when based upon the employment-population ratio as opposed to the employment point of view. The employment-population ratio is the percentage of working aged adults who have jobs. It is also an indicator of how the economy *feels* to the common American. The recessions since 1990 have given us the term “jobless recovery.” This one follows the blue print of economic recovery, but with fewer jobs. The average American still feels the recession even though the National Bureau of Economic Research says that it lasted only 18 months (Woodhill, 2011).

One firm performed well during the recession but admitted that it was due to a long-term contract with one major client. Even with the recession, half of the owners who answered this question said that they had at least a moderate increase in gross income. Had it not been for the recession, nearly all of the firms claimed that they had increased revenue since the inception of their business.

Question fourteen dealt with the owners’ strategies for changing with the market.

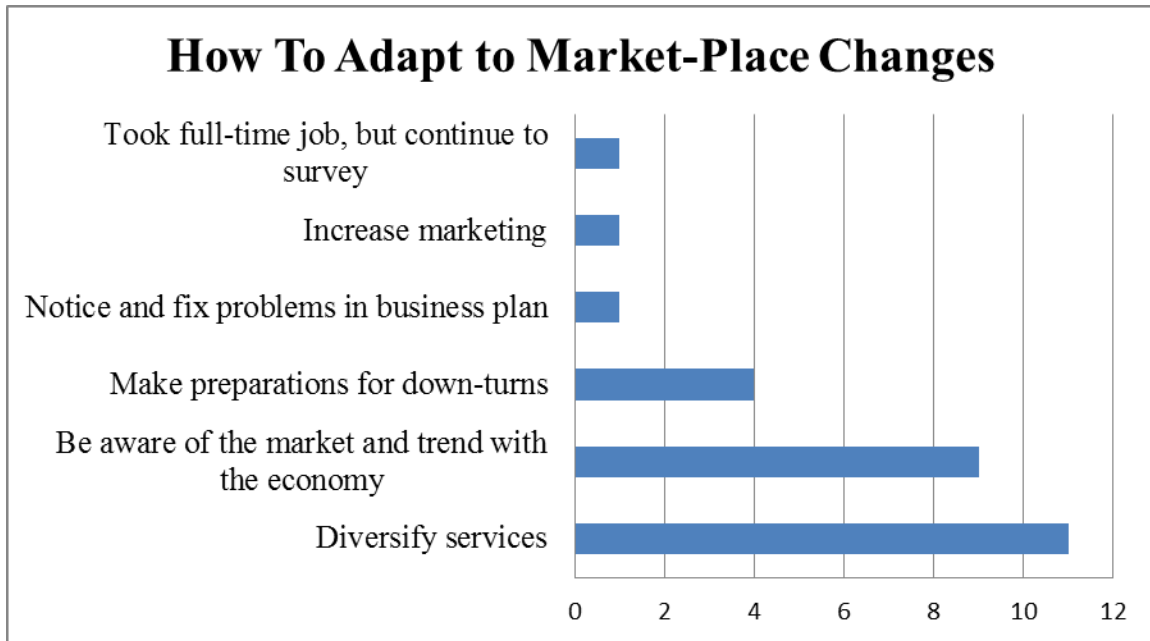


Figure 14 How owners adapt to market-place changes

Most owners were concerned over the cut-backs and lack of growth they have experienced over the last several years. Consequently, they had ready answers for downward market changes. During an economic down-turn many owners offered more services. The need to specialize was diminished, and the need to take smaller and more varied jobs was maximized. Diversifying services makes a company more adept at changing with a changing market. Having a flexible workforce creates value in two ways. First, the flexible workforce spares company costs of slow or non-adjustments to changed situations. Losses associated with not keeping up with the changing economy are minimized. Second, having a flexible workforce means that a company can reduce the amount of new hires needed with the attributes to address business environment changes (Mousumi Bhattacharya, 2005).

The savvy owners seemed to know exactly what was going on in the local, state, and national economies. They also kept their eyes on the trends in civil engineering and surveying that could affect their income. They attended state branch meetings of state-wide civil engineering organizations such as the American Society of Civil Engineers (ASCE) to meet and greet business associates and keep up with the latest developments in their fields. Some companies took the initiative to not only attend these types of pertinent meetings, but also encouraged their employees to acquire leadership positions within state organizations geared towards civil engineering and surveying. Then their company could be viewed as an industry leader with very capable engineers because of those state organization officer roles. Also, experienced owners set aside time to analyze business trends - good or bad - and made plans to accommodate them (Viscione, 1984).

While most owners admitted that having too much business was a good problem to have, they were most concerned with making it through the lean times. They tried to increase marketing to expand their clientele. They looked at their business plans and made changes to try to increase revenue. Most owners said that they save money when business is good so that they can have a “financial cushion” or business emergency fund for when times are not so good.

Question fifteen asked the owners if the new owners had a “lucky break?” This question was directed at the time of start-up for their business.

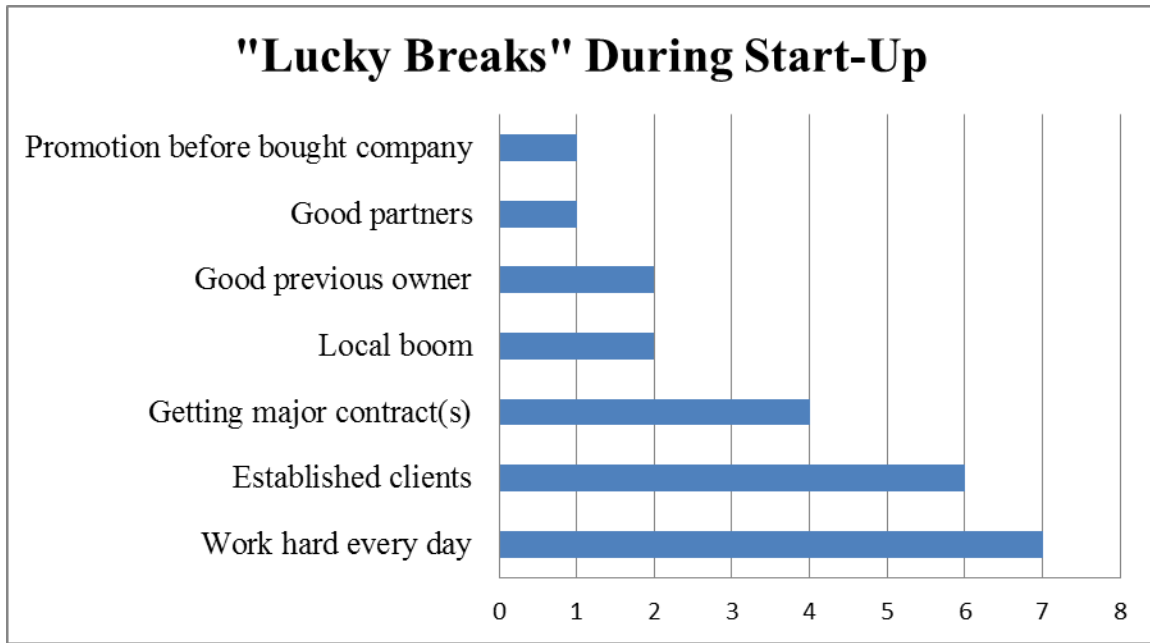


Figure 15 Description of a “lucky break”

Count the totals of good partners, previous owners, and established clients and you can once again see the benefits of building relationships in the civil engineering and surveying fields. Nine out of twenty-three, or 39%, of the answers fall into this category. The correlation between good partners/owners and established clients is undeniable.

Thirty percent of the owners did not recognize that they had a “lucky break” and cited hard work instead. These owners did not take their established clients for granted and made a concerted effort to keep them.

Interesting to note is that even though these owners claimed “hard work” was their “luck”, they were also the owners who were able to gather a team of intelligent, motivated people to a common goal of performing engineering services for clients. When this kind of team is assembled and given latitude to make decisions, they tend to create their own “luck.” The owner who can attract smart, inspired people who work

hard will be lucky in business. When that owner treats his or her employees fairly, provides a clear action plan, and allows for creativity from the employees he or she will create a successful company that will be profitable (Peabody, 2006). So, when these owners discounted “luck” per se, they were really indirectly taking responsibility for an inspired workforce due to excellent leadership.

Question sixteen delved into the areas of business decisions gone bad.

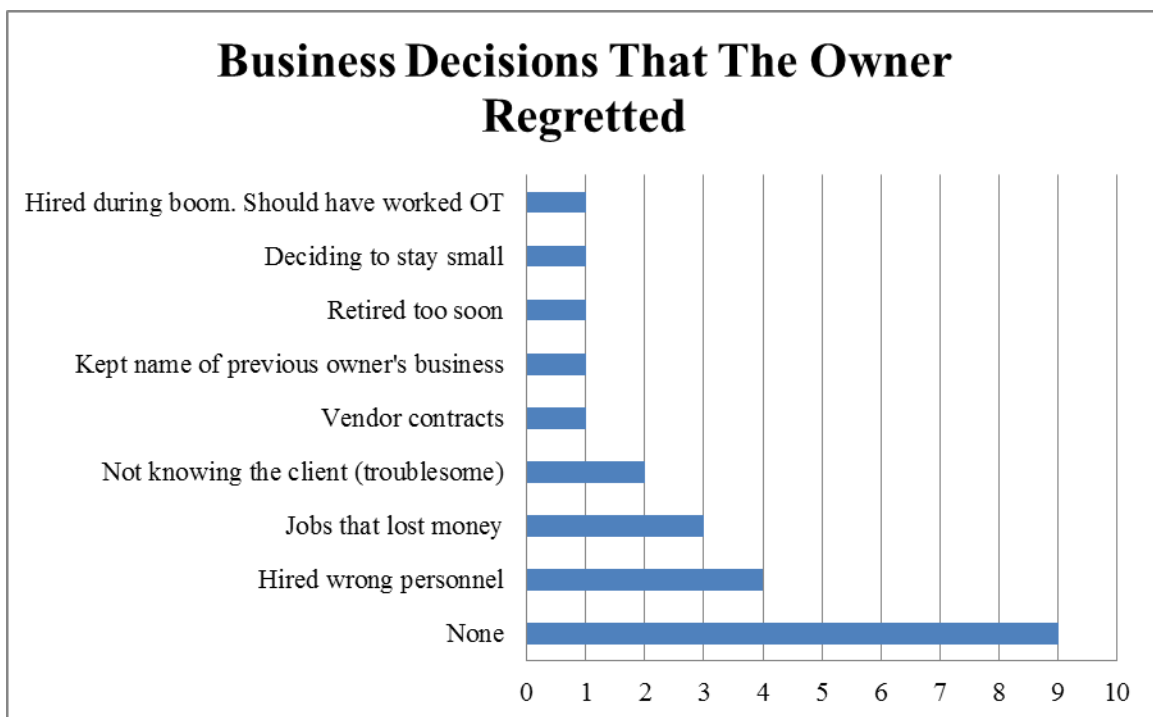


Figure 16 Business decisions that the owners regretted

Although many of the owners did not admit to a regretful choice or decision, there were some who did. The most common issue faced was when the owner hired a person who did not fit into the organization. The most common undesirable characteristic of an employee mentioned was being lazy. Not only will time be lost correcting errors of the

under-performing employee, but the employee himself will need correcting and further training, all of which cost in time and production and possibly company reputation (Prencipe, 1997). The owners cautioned that it was often easier to hire a person than to let them go. The possibility of getting an undesirable person to work for you is decreased when you have a working relationship with him or her or when you have a trusted employee who brings them in. Again, the notion of building relationships with clients and employees warrants the owner's utmost attention.

The next most regretted part of the business is when the owners got a job that they may have bid too low on. The idea of staying busy is good, but the idea of losing money while doing so is not. The owners conceded that if a person stays in business long enough that he or she will make a bid that is too low, or have to deal with the third most potentially regretful situation - an unruly client. None of these situations are desirable, but all must be endured.

The industry term for when an owner is awarded a job based on a bid that is too low for him or her to make a profit is called "the winner's curse." There are three ways that an owner may still make money when they find that they are in this position. The first way is that most states have laws that allow owners to withdraw bids without penalties when the bid contains "arithmetic errors." Once a bid is withdrawn in this way, an adjusted bid cannot be submitted unless the job is re-opened to bidding. The second way that a firm can avoid the "winner's curse" is to convince any sub-contractors to accept less money for their work. Since most firms and sub-contractors work together on many different projects, they each must sometimes concede profits in the name of long-term business relationships. This will usually work unless either party abuses the

situation and repeatedly asks for price concessions. The last way that a firm may recover from the “winner’s curse” is through change orders. Although no firm should count on change orders to bail them out of a low bid no-profit situation, – that is, no owner should intentionally bid too low to get a job and place expectations on change orders to make up the difference - change orders are usually profitable (Dyer & Kagel, 1996).

As business experience increases, these occurrences tend to be minimized. Dealing with difficult customers takes experience and skill. There are ways to categorize the type of customer that is causing an issue. Once the type of difficult customer is identified, there are negotiating strategies that will help to get the best possible outcome from the situation. Obviously, the best outcome would be to retain the customer and do business together in the short and long term. However, there are instances where the best possible outcome is to maintain a mutually respectful relationship with the problematic client (Chochran & Buelow, 2009).

Question seventeen asks the owners about any government regulations - local, state, or federal - that hinders their businesses from growing.

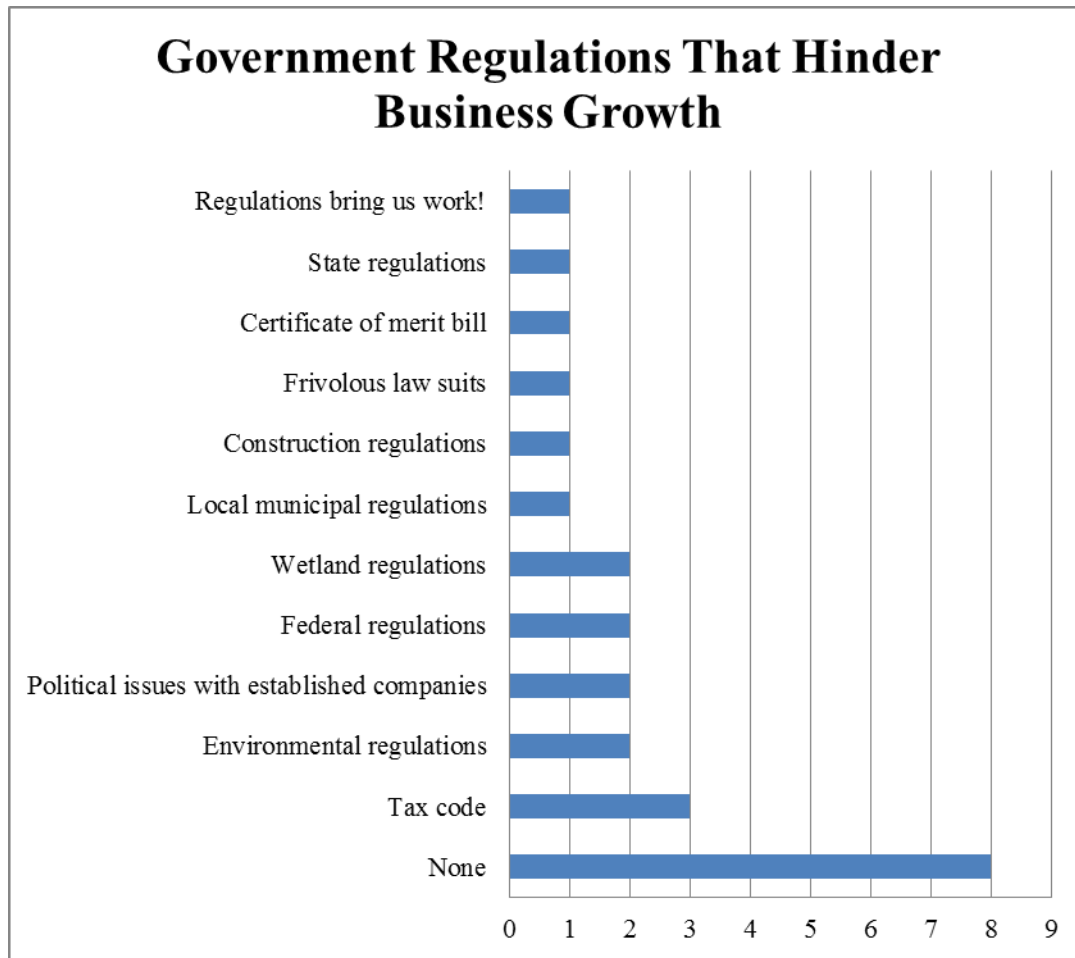


Figure 17 Government regulations that hinder growth

Although several of the firms agreed that some regulations were driving up costs, most stated that they were not substantially affected by them. One firm even stated that they make money because of the regulations. Larger firms were not overly concerned about government regulations, because they could rely upon company resources to deal with them. Smaller companies had to deal with them using whatever resources they could muster. Most smaller firms did not have any dedicated personnel to handle regulations. Regulations became another item for the engineers to handle. Therefore,

when regarding smaller firms and regulations costs, most small businesses pay more out of their profits than large businesses due to government regulations (Warfield & Stark-Jones, 2012).

Question eighteen asks about a business website.

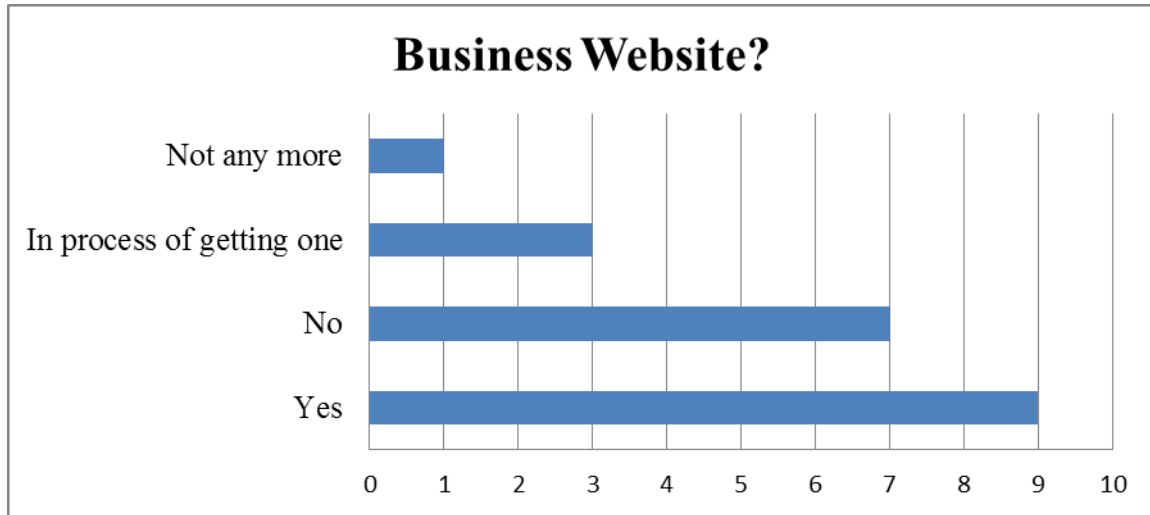


Figure 18 Number of owners who have a business website

Today's customer uses the internet more than ever. They will use smart phones, tablets, and other devices to check out a business before they commit to becoming customers. Browsing even an informal website seems to give some peace of mind to potential customers. Not having a website or having a poorly run website can be detrimental to a small business. Most employers that do not have their own site are usually misinformed about the costs of creating and maintaining one. The costs to start are minimal and to maintain can be bundled with other costs many times for as low as tens of dollars per month (Vozar, 2013).

All of the branch offices of the larger firms and many of the established small to medium sized firms had a website. The branch offices took advantage of their parent company's web resources while the established firms used the internet to advertise especially if they possessed specialized knowledge or services.

The majority of the smaller firms did not have websites and did not want them. They said that too many people were calling from too far away for proposal requests. They followed up by saying that most of their clientele were within a one county radius, and they did not need to invest in a web presence.

Other small firms were interested in getting a website and were in the process of constructing one. One firm said that he did have one in the past, but it had to go due to a budget cut as a direct result of the economic decline of the last decade.

Question nineteen asks about the legal, professional credentials needed to perform civil engineering and surveying services in Mississippi.

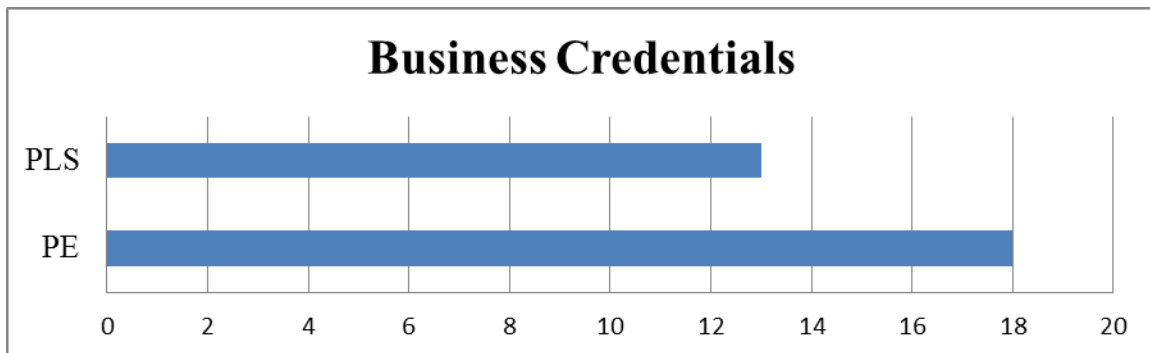


Figure 19 Business credentials that engineering and surveying firms use

All of the firms surveyed stated that they had either a professional engineer's license or professional surveyor's license or both. They also said that they operated

under a certificate of authority issued by the Board of Licensure for Professional Engineers and Surveyors of Mississippi. The licensure board's website can be found at <http://www.pepls.state.ms.us/pepls/web.nsf>.

For one to practice engineering and surveying legally, he or she must have a professional license issued by the state in which he or she will perform engineering services. A firm must also have a certificate of authority. The following information was taken from the Mississippi Code of 1972. The form for applying for a certificate of authority can be found at

http://www.pepls.state.ms.us/pepls/web.nsf/webpages/LN_CA_PAGE_COA?OpenDocument via the link "Engineering (or Surveying) COA Instructions and Applications." Any legally operated business in Mississippi must be registered with the Mississippi Secretary of State's office. The ownership type must be specified and all accounting forms must be correctly submitted for tax purposes.

Along with legal registration with the state, any business that offers professional engineering services to the public must also be registered with the Mississippi Board of Licensure for Professional Engineers and Surveyors. The business can take the form of a professional service corporation; a corporation; a partnership, including limited partnerships and limited liability partnerships; or a limited liability company (LLC).

Prior to performing any engineering work, a firm shall obtain a certificate of authority from the Mississippi Board under Section 73-13-43 of the Mississippi Code of 1972. To be legally able to perform engineering work and also to refer to one's self as a "professional engineer" one must meet the qualifications as required under Section 73-13-23(1) and who has been issued a certificate of registration as a professional engineer.

(Mississippi Code of 1972, Annotated, 1972). The Mississippi Code of 1972 can be viewed at <http://www.pepls.state.ms.us/pepls/web.nsf/webpages/>

[Licensure_Law_PAGE_LL?OpenDocument](#) via the link “Licensure Law.”

The part of the code that delineates the ability to “refer to one’s self as a professional engineer or professional land surveyor” includes using the credentials of P.E. or P.L.S. after one’s name when used on a sign or other method of advertising.

Questions twenty asks the owners how they attract and keep talented people on their work staff.



Figure 20 How owners locate, hire, and keep work force talent

The owners offered a diverse set of answers to how they locate, hire, and keep talent on their workforces. In the case of a small rural firm, the most likely candidates for hire were their sons.

When a firm was looking for a new engineer or helper, and no relatives were available, they fell on the tried and true method of “word-of-mouth” marketing. Word-of-mouth not only works for the benefit of the firms getting clients, but also for the firms hiring new talent. Nearly all of the owners agreed that they tended to hire people that they somehow knew or with whom they had a working relationship. Owners will also rely upon an employee’s recommendation of a person that the employee had worked with previously. Word of mouth advertising can work as an inexpensive way to hire. Referrals from good workers usually turn out to be for other good potential workers (HR Library, 2008). A drawback is that a company can possibly limit itself diversity-wise if they rely solely upon this method.

An inside joke of this business arena is that when owners venture to other owners’ places of business to discuss potential business between firms, the visiting owners are also there to reconnoiter the staff. They are preparing to “steal” employees. Although most of the owners laughed about this kind of practice they also admitted that there was a bit of truth to it.

The larger firms also practiced the art of hiring people they knew or worked with, but they also spent more time and effort using advertisements on their website, the local newspaper, and hiring agents. The larger firms also enjoyed the luxury of being able to transfer employees from another branch office to supplement a high work load. One

owner quoted using the Mississippi State University Career Center for potential employees, and another stated that new employees came to him.

The owners tend to be very careful when hiring new people. They really want to make a good decision, because they said that it was easier to get a bad employee than to get rid of him. They use the word-of-mouth system for this reason. When they do hire an employee that does a good job for them, they try to keep them by offering a higher than average pay, perks for the job such as cell phones or gas cards, and put time and effort into employee relations. These owners considered employee relations to be equal to customer relations, because they felt that they could not have one without the other.

Employee satisfaction and the willingness of employees to recommend their employer to friends and family who are looking for work are base factors that influence customer satisfaction. These are the qualities, if inherent in the attitudes of employees, that will attract customers to return to the firm for more business (Dr. Jan Stringer West). When it comes to how employees deal with customers, customer services becomes everyone's job regardless of job titles. The receptionist, technician, engineer, and firm owner all play their roles in developing relationships with customers. A breakdown of employee relations may lead to negative attitudes and perspectives from employees. This negativity will inevitably spill over to customers in the form of poor communication and/or a feeling of discontent. Customers will notice this negativity and avoid this place of business if at all possible, therefore, affecting the firm's bottom line (Magnesen, 1987).

Engineering firm owners found that employees stayed with a company that demonstrated good leadership and offered some freedom within the work day. Allowing

employees to handle personal business during working hours went a long way towards establishing good will. Good business decisions and company leadership were the traits most valued by the employees. Even if the owner made an unpopular decision, the employees would stay if they thought it was in the best interest of the long term viability of the company. Employees do not leave their jobs, they leave their leaders. Effective leadership from the top down in any organization is crucial for employee retention (Cran, 2012)

One owner said that he targeted engineers who had made a major mistake in the past. His reasoning was that if the person made that honest mistake, he or she had already paid for it, and would work twice as hard for him in order to prove themselves.

Looking at this subject from the “person trying to get a job” point of view brings in some different dynamics. Baby-boomers are working longer. Data shows that the percentage of boomers who work past the age of 65 is now around 25% up from 17% twenty years ago. These same boomers counted on increased real estate value to contribute their retirement security, but now are faced with the economic reality of the opposite. Also, their retirement investments in the market have depreciated in value. All of these factors contribute to added frustration of younger workers who are finding it more difficult to secure a meaningful job. Recent graduates found it more difficult to get started in their careers, because older technicians and engineers were holding onto their jobs longer due to the Great Recession. (Zappe, 2010).

Question twenty-one asks the owners if they enjoy a competitive advantage. “If so, please describe it”. Also, the research asked for answers other than “customer service.”

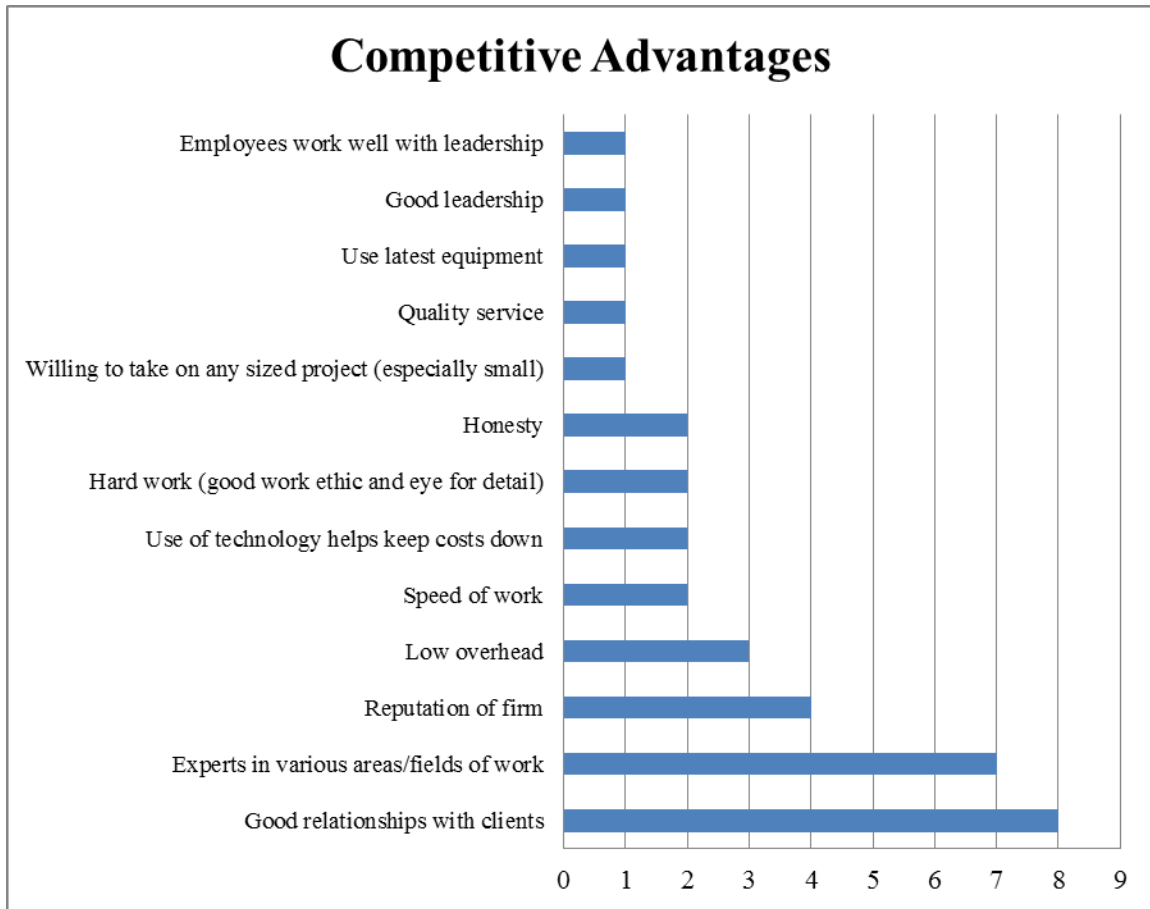


Figure 21 Various competitive advantages of firms

Some owners tried to take small jobs and finish them quickly. Others were intent upon updating equipment, software, or implementing technology to make their firms more competitive.

There are two fundamental concepts of achieving and keeping a competitive advantage. The first is to keep the company's overhead low. The owners did this by performing a quick turn around on small jobs, and by upgrading equipment and software. They also trained their employees to perform more than one job so they could offer diversified services. The owners also touted the skills of any field experts that they had

on staff so that they could offer the specialized services that their competitors could not. A competitive advantage should be sustained for a long period of time if the business really wants to be successful. Ways to achieve this include creating a value for customers. This can be done with pricing, convenience, or some other customer-friendly method of doing business. The idea of enhanced customer service is to create a perceived value of your services to the customer. It does not matter if your business is superior to others as long as your customers *think* it is. Also, your competitive advantage should be difficult for your competitors to copy. The hiring of industry experts would be an example of this (Bressler, 2012).

The second way companies tried to obtain and keep an advantage over their competition was through building long-term relationships with their customers. The civil engineering and surveying business relies on this concept most of all. Not only does a person have to become a professional engineer and/or surveyor, he or she must also become a professional marketer, an expert on business, a project partner, and “go to” guy or girl for their clients. Going the extra mile with customers goes a long way towards the long term success of their firms. A service-centered approach oriented towards customers can be a competitive advantage (Grewal, Krishnan, & Lindsey-Mullikin, 2008).

Questions twenty-two and twenty-three ask about the issues of too much and too little business and how the owners deal with each.

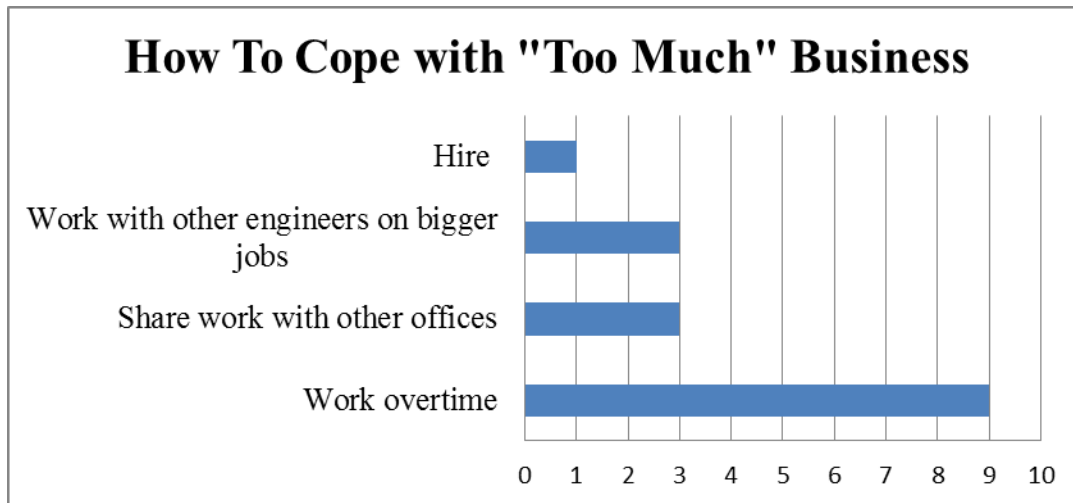


Figure 22 Coping with too much business

The branch offices of the larger firms will sub-contract extra work to other branch offices. They will also request to transfer people from other offices if needed to take on a job that beyond the capabilities of their current staff. This practice protected the larger firms from the issue of hiring engineers for the “boom time” and then laying them off when the boom is over. Several owners said that they avoid this situation if possible. One owner stated, “You have to take the emotion out of business decisions, but you cannot deal with people without emotions. People should not be hired if you cannot keep them on permanently. Hiring them now knowing you are going to let them go in six months is bad for business overall.”

Smaller firms shared work with other small firms. They contracted work to people they knew and had previously established working relations. Subcontracting work is a temporary fix during economic growth (Gonzalez-Diaz, Arrunada, & Fernandez, 2000). If the work load was persistently high, they would eventually hire, but not before

working the staff they had for a few months at longer hours. If the work load trended upward passed the capacity of their current employees and overtime, they would make the decision to hire and adapt their current business to the emerging one.

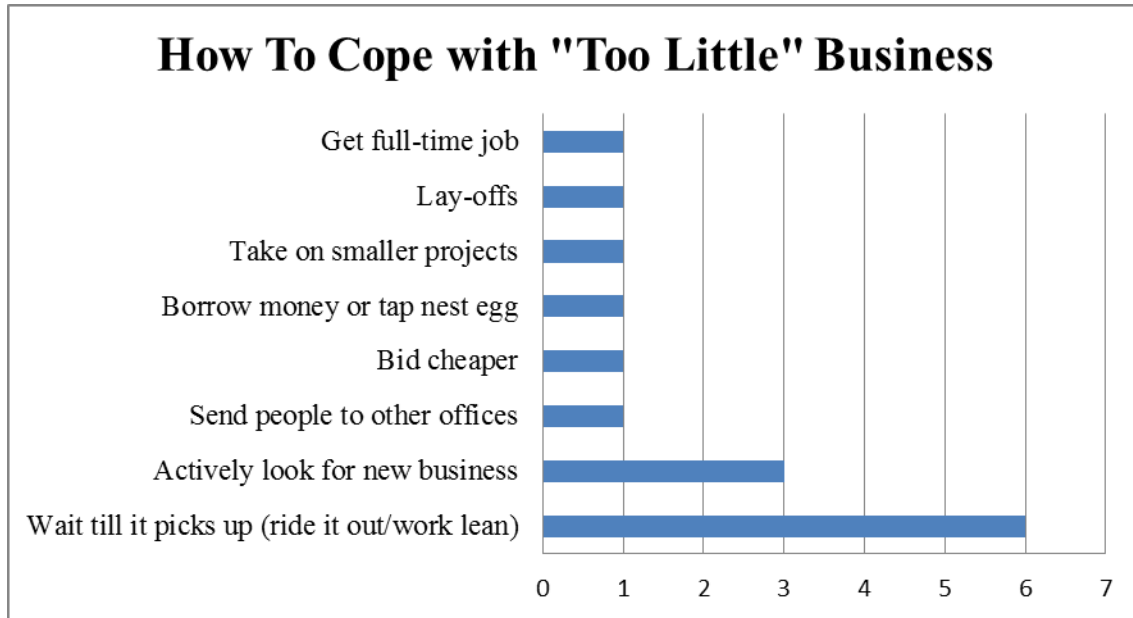


Figure 23 Coping with too little business

Most owners talked about saving money during the good times and tapping their nest egg during the lean times. Some owners would bid lower on jobs just to make sure they would have some work. They sacrificed profits for sustaining their firms. They mentioned that when the work load was light, that meant that they had more time to market themselves and spend time trying to attract new customers. Ultimately they used the slower times to train employees to diversify their services and actively looked for new business while waiting for the work load to pick up.

Another strategy is to not diversify and to focus on a small core group of services that are the most profitable. By diversifying, many firms spread out their employees too thin and spent much time and effort for little results. In times of recession, a firm is looking to make profit, of course, but sometimes it is looking just to survive. Each owner must judge for him or herself on which method is best for their firm (Barnes, 2011).

Some other strategies to make it through difficult economic times are to sell off pieces of your business that are not profitable or equipment that is not being used. Another idea is to offer services at reduced pricing (Recession and Recovery: Strategies in the Downturn, 2010). Last resort ideas are to consider merging with another company, so that one or both firms will survive, and laying-off employees.

The bad-case scenarios included the branch offices sending people to other offices where work was more abundant, smaller firms borrowing money to make payroll, laying-off people, and, the worst case, shutting down the business. One owner had to lay off everyone he had hired and took a full-time job with another company due to the severe decline of his business revenues.

CHAPTER V
CHALLENGES AFTER START-UP

Question twenty-three asks the owners about their biggest business challenge that they are facing presently.

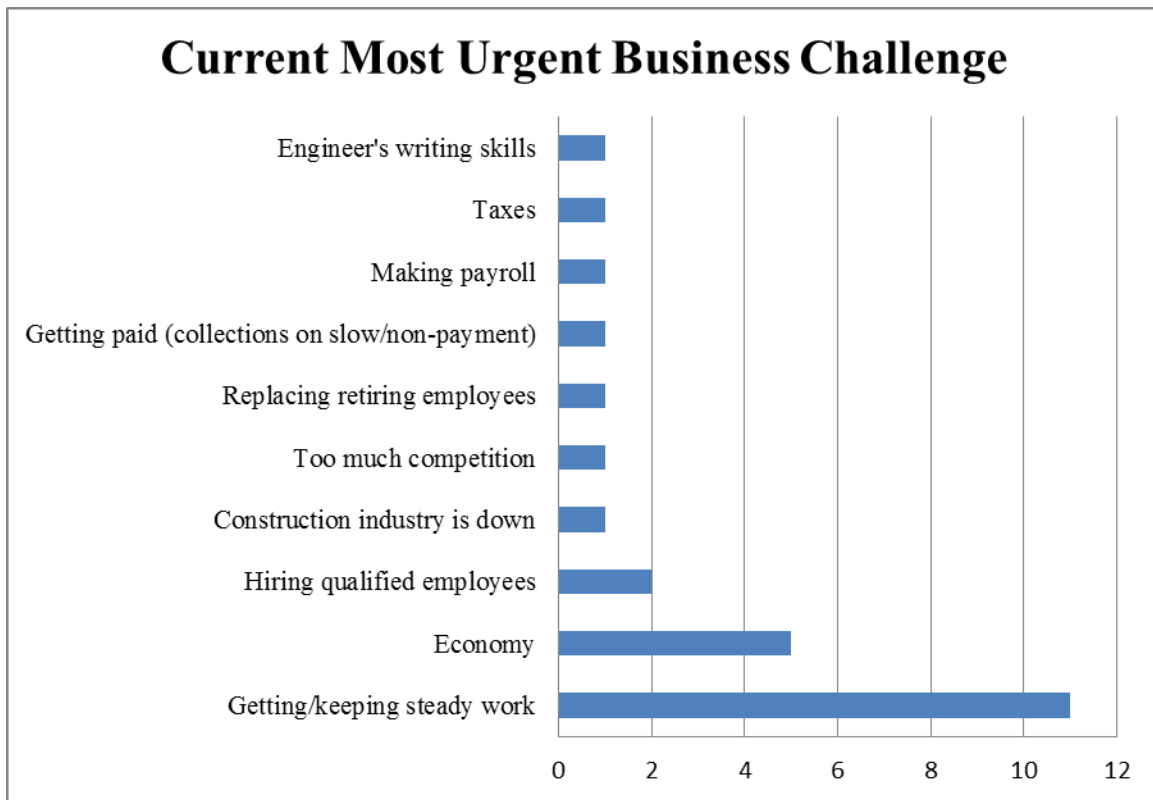


Figure 24 Biggest business challenge right now

Twenty of the answers given, or 80%, are tied directly to the economic decline of 2007 - 2008. Most of the owners were concerned about keeping enough business to sustain revenue so that they could continue to do business without lay-offs.

Issues not necessarily tied to the economy included finding qualified employees. This goes back to the notion that it is difficult for a small firm in a small town to attract people who are not from a small town and who have the right degrees or credentials to perform engineering or surveying work.

One engineer owner prepared his own taxes each year. This was an attempt he made to keep his overhead low, but he found that the tax code was complicated and changed each year which made it difficult for him to do.

Another owner complained about his new engineers' writing skills. The nature of engineering work requires that specifications and proposals be written and that the newer engineers took a long time to develop this skill.

Question twenty-four asks the owners what they perceive is the biggest business challenge of their future.

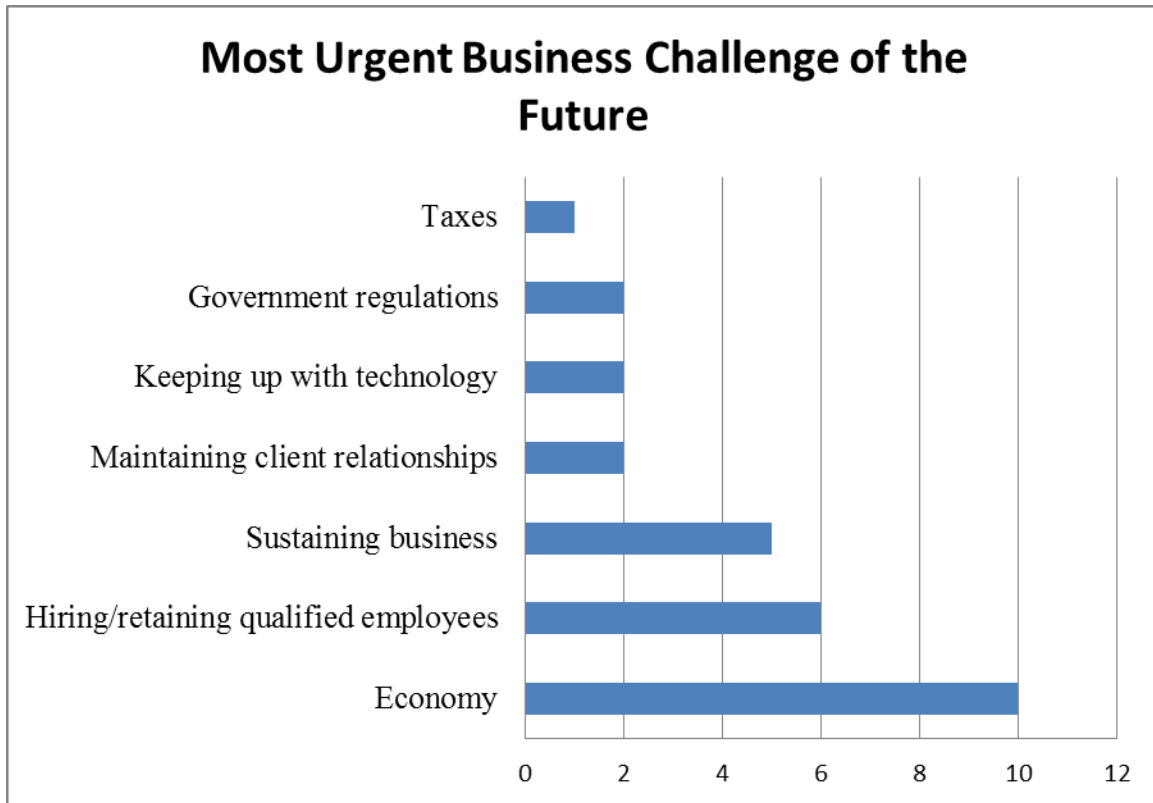


Figure 25 Biggest business challenge of the future

Concern over the economy was the biggest issue by far. Coupled with the category of sustaining business, these issues represented 54% of the ones mentioned. The owners were disturbed by the potential “triple threat” of lower work load, less revenue, and loss of trained staff. They mentioned that they were doing all they could to prevent laying-off people, but could not prevent their employees from seeking employment elsewhere. While revenues were down, all facets of business are affected. The owners stated that even established clientele had their own money problems which made their business prospects even worse. The owners who had low overhead during these lean times were the winners. They could still perform daily operations without

much difference from when business was good while larger firms or ones that had high overhead really suffered.

One strategy to help a business through a recession is to effectively market. Marketing is more than advertising, it is strategically managing your company for the business opportunities of the future. An effective marketing plan can increase profits by 20% which would be good if the economy were strong or weak (Allen, 2009). Also, savvy business owners know that many things such as competitor's equipment, valued employees, and other assets such as real estate become acquirable during hard times and often at bargain prices. These owners plan for the bad times by putting their companies in the position to accumulate wealth producing resources when times are tough and enjoy higher profits when the economic upturn comes.

CHAPTER VI

CONCLUSION

The purpose of this research was to get a first-hand view from the owners themselves on how they handle the issues and challenges of owning or managing a small engineering or surveying firm in Mississippi. The correlation could be made that these techniques would work in most rural communities across the United States and not exclusively in Mississippi.

Getting started in the business is made easier if the owner grew up in the area, if there are established clients, and if there is a lack of competition. Other factors that help in sustaining a new business are keeping low overhead, saving money when times are good, and starting the business with little or no debt.

The most crucial concept reported is the idea of word-of-mouth marketing. This includes getting new customers based upon the owner's and/or firm's reputation. It also includes the ability to attract and keep new and qualified talent as well as who to subcontract work to in overload situations.

Being able to do engineering work is just the beginning if you want to be an engineering or surveying firm owner. You must be qualified which in most cases includes a bachelor's degree in civil and environmental engineering. You have to be registered with the state as a professional engineer or surveyor. You have to have a certificate of authority from the licensure board. You have to register your business with

the secretary of state. You have to abide by the legal rules of winning a bid, pay the appropriate amounts of taxes, and develop your clientele. Not lost in these tasks are managing income versus expenses, training employees and upgrading equipment, employee relations, and customer relations.

Having an accountant, insurance person, and attorney as close business contacts is recommended by most of the owners.

All of these concepts and more are brought into play when one strikes forth with the entrepreneurial spirit of engineering business ownership. The risks are many, but the rewards are great. The recession that we have endured for the past five years or so has had a negative impact upon these firms, but during “normal” times, these firms are profitable. These owners are living the American dream of business ownership and are leading very fulfilling roles in their lives for their families, communities, and in the lives of their employees and customers.

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APPENDIX A
AP LIST OF AVAILABLE ENGINEERING COMPANIES AT THE TIME OF
RESEARCH

1. Abmb Engineers Inc

2. Alford & Associates

3. Atkin's Railroad Consulting, Inc

4. Bailey Engrg & Land Surveying LLC

5. Banks Engineering & Surveying

6. Benchmark Engineering Inc

7. Bigford, James H

8. Bonds, Gregory A PE

9. Bracey Land Surveying

10. Brown, Mitchell & Alexander, Inc

11. Brown, Wayne H

12. Bunch Engineering

13. Caldwell Engineering (Caldwell Surveying)

14. Camp Dresser & Mc Kee

15. Carpenter Engineering, Inc

16. Civil Tech Inc

17. Civiltech, Inc

18. Clearpoint Consulting Eng pa

19. Compass Environmental, Inc (Williams, Stanley)

20. Crawley & Associates

21. Dale Stockstill & Associates

22. Dean Mc Rae Engineering Inc

23. Dean Mcrae Engineering South

24. Delta Link

25. Dennis Stieffel & Associates

26. Digital Engineering & Imaging

27. Dixon Engineering CO (Dixon, Robert L)

28. Duke Levy & Associates Pa

29. Echelon Enterprises

30. Elliott, T W PE (Elliot & Britt Engineering Pa)

31. Engineering Plus

32. Engineering Plus Inc

33. Engineering Specialty Services

34. Eustis Engineering Company Inc. of Mississippi

35. Evans Engineering Pa

36. Foster Jones & Associates Inc

37. Gardner Engineering pa

-
38. Geotechnical Engineering Testing
-
39. Goss Consulting
-
40. G P Engineering & Surveying
-
41. Harris Engineering
-
42. Hattaway Engineering Inc
-
43. H D Lang & Associates Inc
-
44. Hooker Engineering Services, Inc
-
45. Houston Engineering Pllc
-
46. Jalbtcx
-
47. James Akins Engineering
-
48. Jessie Oldham (Oldham Consultants)
-
49. Jones Davis Engineering (Jones-Davis Engineering)
-
50. Jordan Kaiser & Sessions LLC
-
51. King Engineering Associates
-
52. King Engineering Associates Inc
-
53. Knesal Realty Service
-
54. Lang, Michael E PE
-
55. Mendrop Wages

-
56. Mendrop & Wages LLC
-
57. Mendrop Wages LLC
-
58. M & G Enterprises, Inc
-
59. Mississippi Engineering Group
-
60. Neshoba County Engineering
-
61. O'Neal-Bond Engineering
-
62. P A Dungan Engineering
-
63. Pickering Firm
-
64. Pittman Engineers Inc
-
65. Raymond Barker Associates
-
66. Reynolds Engineering Inc
-
67. River Science, LLC
-
68. Russell Engineering and Land Surveying, LLC
-
69. Schrock Engineering
-
70. Scott Engineering CO
-
71. Sharp, Dwayne C PE
-
72. Sol Engineering Service LLC
-
73. Southern Consultants Inc

74. Spencer-Engineers Inc

75. Stalfo Enterprises (Fouche Associates)

76. Tessier, Walt PE

77. Urs Corporations

78. Waggoner Engineering Inc

79. Waggoner Engineering Inc

80. Walker Associates

81. Walton, H Dwane PE

82. Warnock And Associates

83. W Engineering pa

84. Williams, A L PE

85. Williams Clark & Morrison Inc

86. Williams Engineering Conslns

87. Williford Gearhart & Knight (Engineers And Surveyors)

88. Williford Gearhart Knight

89. Willis Engineering Inc

90. W L Burle Engineers

APPENDIX B

RAW DATA - QUESTIONS ASKED TO EACH FIRM WITH COMPLETE ANSWERS

Company #1

1. **What services do you provide?**
They provide civil engineering, land planning, and subdivisions services.
2. **What was your biggest business challenge during start-up?**
Cash flow.
3. **How did you raise starting capital?**
The owner sold house took profit and borrowed from bank.
4. **How did you find your niche market?**
Market found *us*. They were willing to do highway department work. Then they built personal relationships with clients.
5. **How did you use your niche market to grow your company?**
They do not advertise. They use word of mouth.
6. **What is your preferred method for reaching clients?**
Personal relationships.
7. **Where is the location of your original business?**
Biloxi, MS.
8. **Why did you choose this place?**
Owner lived there, and he thought it was a business growth area.
9. **How far do you do work from your home office?**
Anywhere in Mississippi.
10. **Is there a job that would be too far away?**
Outside of Mississippi.
11. **Do you do business outside of Mississippi?**
No, but possibly in future.
12. **Is there a job that would be too small or too big to bid on?**
Not really. Too big would be a problem. Up to 50 million and down to one lot for a house.
13. **What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentage wise?**
Approximately 200%. We have had lots of ups and downs.
14. **How do you as a business owner adapt to market-place changes?**

We do work on a percentage. Our market and business is based on the economy.

15. What was your 'lucky break'?

Not really any lucky breaks for us. We work by the project.

16. What is a business decision that you made that you now may regret?

Not really.

17. Are there any government regulations or components of the MS legal system that hinders your business from growing?

Environmental regulations and regulations of local municipalities.

18. Does your business have a website?

No.

19. What kind of credentials does your business operate under?

PE and CoA.

20. How do you locate, hire, and keep talent on your work force?

We are just two people. They have not hired engineers yet. Owner's son works with them.

21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?

Speed of work. Get projects approved and built quickly. Use of technology allows us to keep costs lower than competition. We have achieved low overhead.

22. How do you cope with the issues of 'too much business' and 'too little business'?

Never too much. We won't take new work if we are too busy. In the case of too little work, we can wait till it picks up again because of our low overhead.

23. What is your biggest challenge now?

The economy.

24. What do you see are your greatest challenges of the future?

Our company keeping up with technology. Keeping our competitive edge as we get older.

Company #2

1. **What services do you provide?**
General civil surveying environmental.
2. **What was your biggest business challenge during start-up?**
Finding qualified staff.
3. **How did you raise starting capital?**
Financed by company branch office.
4. **How did you find your niche market?**
Worked for Jackson for 20 years, made contacts, and personal relationships.
5. **How did you use your niche market to grow your company?**
Anyway we could.
6. **What is your preferred method for reaching clients?**
Personal meetings face to face, calling personal relationships.
7. **Where is the location of your original business?**
National.
8. **Why did you choose this place?**
Geographically close to Baton Rouge, right person to start the branch office was close.
9. **How far do you do work from your home office?**
All over MS.
10. **Is there a job that would be too far away?**
Depends on the job.
11. **Do you do business outside of Mississippi?**
No.
12. **Is there a job that would be too small or too big to bid on?**
Not right now bc of larger company, can do all of engineering.
13. **What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**
NA
14. **How do you as a business owner adapt to market-place changes?**

Being aware of the changes and how they are changes. Notice and fix problems.

15. What was your 'lucky break'?

Work every day.

16. What is a business decision that you made that you now may regret?

People hired.

17. Are there any government regulations or components of the MS legal system that hinders your business from growing?

Yes. Tax code. Construction regulations.

18. Does your business have a website?

Yes.

19. What kind of credentials does your business operate under?

Business license for engineering and surveying. CoA. PE surveyors.

20. How do you locate, hire, and keep talent on your work force?

Personal knowledge. Recruiters don't work. Word of mouth.

21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?

People who know what they are doing in various areas and have relationships with the clients and hard work.

22. How do you cope with the issues of 'too much business' and 'too little business'?

Never too much business, too little is feared. Share work with other offices.

23. What is your biggest challenge now?

Economy.

24. What do you see are your greatest challenges of the future?

Economy.

Company #3

1. **What services do you provide?**
General civil site plan design, surveying, waste water, street drainage.
2. **What was your biggest business challenge during start-up?**
Side work and getting enough work to get established. Have building and now lease out part of it.
3. **How did you raise starting capital?**
Started small. Savings. Wife worked.
4. **How did you find your niche market?**
We evolved and understood that we cannot compete with large firms, so we take smaller work that larger firms weren't interested in, and we are price competitive.
5. **How did you use your niche market to grow your company?**
Grew business from volume of work and gained name recognition over time.
6. **What is your preferred method for reaching clients?**
Referred work.
7. **Where is the location of your original business?**
Terry, MS. We started the business out of the house.
8. **Why did you choose this place?**
Closest town to where lived. Got property at good price because of relationships.
9. **How far do you do work from your home office?**
Anywhere in MS.
10. **Is there a job that would be too far away?**
Out of MS. Getting license for other states.
11. **Do you do business outside of Mississippi?**
No.
12. **Is there a job that would be too small or too big to bid on?**
No. Can team up with other engineers to do bigger jobs.
13. **What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**
~500% or 5 – 10 times.

- 14. How do you as a business owner adapt to market-place changes?**
Willing to do other types of work. When one slows, go to others. Take small jobs.
- 15. What was your 'lucky break'?**
Not really. Fortunate that work comes in at appropriate time. Rare to have little or no work.
- 16. What is a business decision that you made that you now may regret?**
NA
- 17. Are there any government regulations or components of the MS legal system that hinders your business from growing?**
Not really. Hard to get proposals.
- 18. Does your business have a website?**
No.
- 19. What kind of credentials does your business operate under?**
PE business license.
- 20. How do you locate, hire, and keep talent on your work force?**
Hired sons. Not enough work to hire. Longtime friend with IT knowledge.
- 21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?**
Willing to take on any sized project especially small.
- 22. How do you cope with the issues of 'too much business' and 'too little business'?**
NA
- 23. What is your biggest challenge now?**
Worry about work coming in. Economy. Construction.
- 24. What do you see are your greatest challenges of the future?**
Taxes, regulations.

Company #4

1. **What services do you provide?**
Geotechnical, qc, materials, accredited soils lab.
2. **What was your biggest business challenge during start-up?**
Getting new work after Katrina boom. Relations with clients. Outside from LA. People want local people to do work. From MS. Employees are local.
3. **How did you raise starting capital?**
Financed by corporate office.
4. **How did you find your niche market?**
Coastal work. Casinos. Local business was good.
5. **How did you use your niche market to grow your company?**
Much local work. Put new office where business was.
6. **What is your preferred method for reaching clients?**
Bid sheets. Cold calls. Business Lunches. Personal relationships. Functions at large firms.
7. **Where is the location of your original business?**
Gulfport, MS. Original business is in Louisiana.
8. **Why did you choose this place?**
Went to Gulfport for Katrina boom.
9. **How far do you do work from your home office?**
Less than 75 miles.
10. **Is there a job that would be too far away?**
Yes. More than ~75 away is the threshold of no longer being competitive with bids.
11. **Do you do business outside of Mississippi?**
Yes.
12. **Is there a job that would be too small or too big to bid on?**
Risk matters not size. Smaller jobs have more risks. Because price is low with same risk as big jobs.
13. **What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**

NA

14. How do you as a business owner adapt to market-place changes?

Trying to bid correctly. Have high overhead.

15. What was your 'lucky break'?

Not really. Had established clients. Katrina work.

16. What is a business decision that you made that you now may regret?

Personnel. Jobs that lost money. Vendor contracts.

17. Are there any government regulations or components of the MS legal system that hinders your business from growing?

Not really. Political issues with established companies.

18. Does your business have a website?

Yes.

19. What kind of credentials does your business operate under?

PE of record, CoA.

20. How do you locate, hire, and keep talent on your work force?

Haven't hired. Laid off. Interviews announced through newspapers and website, head hunters. Transfers from other offices. Compensation for worth of employees. Good work environment. Good leadership and employee relations.

21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?

Quality service, much experience, original firm since 1946.

22. How do you cope with the issues of 'too much business' and 'too little business'?

Comb the pavement, bid cheaper, send people to other branches.

23. What is your biggest challenge now?

Trying to get more work. Sustaining the work load.

24. What do you see are your greatest challenges of the future?

Maintaining relationships and continuing to grow. Constantly staying competitive. Don't take clients for granted.

Company #5

1. **What services do you provide?**
Civil and surveying and construction material testing.
2. **What was your biggest business challenge during start-up?**
NA
3. **How did you raise starting capital?**
Bank.
4. **How did you find your niche market?**
MS Delta- lack of competition.
5. **How did you use your niche market to grow your company?**
NA
6. **What is your preferred method for reaching clients?**
Established clients, repeat business.
7. **Where is the location of your original business?**
Indianola, MS.
8. **Why did you choose this place?**
Bought existing firm.
9. **How far do you do work from your home office?**
MS.
10. **Is there a job that would be too far away?**
Depends on price. Large jobs are ok.
11. **Do you do business outside of Mississippi?**
Yes. Arkansas.
12. **Is there a job that would be too small or too big to bid on?**
Don't bid on services. Too small.
13. **What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**
NA
14. **How do you as a business owner adapt to market-place changes?**
NA

- 15. What was your 'lucky break'?**
Hard work.
- 16. What is a business decision that you made that you now may regret?**
Not really.
- 17. Are there any government regulations or components of the MS legal system that hinders your business from growing?**
No.
- 18. Does your business have a website?**
Yes.
- 19. What kind of credentials does your business operate under?**
PE, surveying, CoA for both.
- 20. How do you locate, hire, and keep talent on your work force?**
Hiring difficult. No one wants to move to Delta.
- 21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?**
Technology. Latest equipment and software.
- 22. How do you cope with the issues of 'too much business' and 'too little business'?**
Too much: overtime. Shop out some work.
- 23. What is your biggest challenge now?**
Hiring employees not enough qualified personnel in the area.
- 24. What do you see are your greatest challenges of the future?**
Hiring more qualified employees.

Company #6

1. **What services do you provide?**
Civil engineering, environmental, surveying.
2. **What was your biggest business challenge during start-up?**
Had experience but no money. Hired as county engineer while starting up.
Picked up Webster county as county engineer. Later quit because of distance.
3. **How did you raise starting capital?**
Struggled through projects from state agents and board of supervisors. Had big projects but have to wait till project completes before getting contract.
4. **How did you find your niche market?**
Board of supervisors and state aid division.
5. **How did you use your niche market to grow your company?**
Consulting with above.
6. **What is your preferred method for reaching clients?**
Word of mouth, newspaper ads.
7. **Where is the location of your original business?**
Pontotoc, MS.
8. **Why did you choose this place?**
Grew up there.
9. **How far do you do work from your home office?**
50 – 60 miles.
10. **Is there a job that would be too far away?**
60 + miles.
11. **Do you do business outside of Mississippi?**
No.
12. **Is there a job that would be too small or too big to bid on?**
Not too small. Get help with bigger jobs.
13. **What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**
About the same. Business slow. During presidential election year.
14. **How do you as a business owner adapt to market-place changes?**

Upgrade equipment and software.

15. What was your 'lucky break'?

No. Hard work.

16. What is a business decision that you made that you now may regret?

Contracts that did not make any money. Maybe took loss. Too many corrections. Lack of communication on project. Trouble with too many bosses. Different ideas.

17. Are there any government regulations or components of the MS legal system that hinders your business from growing?

DEQ regulations for wetlands preservation report and erosion control for no extra pay. Must present it to corps of engineers, fish and wildlife, and EPA for approval. Extra costs involved especially from EPA. Writing reports.

18. Does your business have a website?

No.

19. What kind of credentials does your business operate under?

PE, PLS. No CoA.

20. How do you locate, hire, and keep talent on your work force?

Keep people with experience. People have side jobs (cattle, farming) freedom, good leadership, time off for whatever, treat employees well, check references for moral conditions, not lazy, smart and good grades-not so much.

21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?

Honesty and do a good job. Correct errors when discovered.

22. How do you cope with the issues of 'too much business' and 'too little business'?

Work harder for too much business. Ride it out.

23. What is your biggest challenge now?

Struggling for business. Not enough work. Too much competition. Wasn't able to grow like wanted to. Most business is from state. Must do other work: surveying, environmental engineering, etc...

24. What do you see are your greatest challenges of the future?

Getting owed money paid.

Company #7

1. **What services do you provide?**
Civil surveying and test lab.
2. **What was your biggest business challenge during start-up?**
Had two older partners, had established surveying business.
3. **How did you raise starting capital?**
Joined established business.
4. **How did you find your niche market?**
Surveying, stayed in same area for long time.
5. **How did you use your niche market to grow your company?**
NA
6. **What is your preferred method for reaching clients?**
Experience and proven record, word of mouth and building relationships.
7. **Where is the location of your original business?**
Natchez, MS.
8. **Why did you choose this place?**
Born and raised there.
9. **How far do you do work from your home office?**
100 miles.
10. **Is there a job that would be too far away?**
No.
11. **Do you do business outside of Mississippi?**
Yes. AL, TN, LA, TX.
12. **Is there a job that would be too small or too big to bid on?**
Bigger jobs get associates to help. Try to keep business at even level.
13. **What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**
NA
14. **How do you as a business owner adapt to market-place changes?**
NA

- 15. What was your 'lucky break'?**
Had two good partners.
- 16. What is a business decision that you made that you now may regret?**
Not really. Steady all along.
- 17. Are there any government regulations or components of the MS legal system that hinders your business from growing?**
Federal regulations.
- 18. Does your business have a website?**
Yes.
- 19. What kind of credentials does your business operate under?**
PE and PLS. CoA.
- 20. How do you locate, hire, and keep talent on your work force?**
Like the area. Good working environment.
- 21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?**
Good people.
- 22. How do you cope with the issues of 'too much business' and 'too little business'?**
Ride it out.
- 23. What is your biggest challenge now?**
Sustaining business.
- 24. What do you see are your greatest challenges of the future?**
Sustaining business.

Company #8

- 1. What services do you provide?**
Civil engineering, surveying and development of commercial properties, water and sewer sub division, transportation.
- 2. What was your biggest business challenge during start-up?**
NA
- 3. How did you raise starting capital?**
NA
- 4. How did you find your niche market?**
1969 not many surveyors low demand.
- 5. How did you use your niche market to grow your company?**
Good relations.
- 6. What is your preferred method for reaching clients?**
Word of mouth.
- 7. Where is the location of your original business?**
Wiggins, MS.
- 8. Why did you choose this place?**
Original owner was from there.
- 9. How far do you do work from your home office?**
In MS, 50 mi radius usually.
- 10. Is there a job that would be too far away?**
Job specific. If licensed in other states.
- 11. Do you do business outside of Mississippi?**
Yes.
- 12. Is there a job that would be too small or too big to bid on?**
No.
- 13. What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**
NA
- 14. How do you as a business owner adapt to market-place changes?**

Change to meet job demands, but keep basic business the same.

15. What was your 'lucky break'?

Hard work.

16. What is a business decision that you made that you now may regret?

NA

17. Are there any government regulations or components of the MS legal system that hinders your business from growing?

NA

18. Does your business have a website?

In construction.

19. What kind of credentials does your business operate under?

PE, PLS, CoA, and CoR.

20. How do you locate, hire, and keep talent on your work force?

No big turnover. Wonderful employer to work. Very fair and generous. Good leadership.

21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?

Length of stay. Oldest and most experienced.

22. How do you cope with the issues of 'too much business' and 'too little business'?

Work harder.

23. What is your biggest challenge now?

Get more business.

24. What do you see are your greatest challenges of the future?

Trying to sustain business.

Company #9

1. **What services do you provide?**
Civil surveying .
2. **What was your biggest business challenge during start-up?**
Finances.
3. **How did you raise starting capital?**
Didn't, worked hard.
4. **How did you find your niche market?**
No state or fed work. Private preference. Land development.
5. **How did you use your niche market to grow your company?**
All are in marketing. Marketing with current client. Keep clients. Word of mouth. Personal relationships. Good work reputation.
6. **What is your preferred method for reaching clients?**
Good rep and word of mouth. Not a lot of advertising or marketing. Don't like hob- knobbing.
7. **Where is the location of your original business?**
Meridian, MS.
8. **Why did you choose this place?**
Wife's mother lived there.
9. **How far do you do work from your home office?**
Job specific. Within 60 miles.
10. **Is there a job that would be too far away?**
Job specific niche market items of expertise.
11. **Do you do business outside of Mississippi?**
Yes, AL.
12. **Is there a job that would be too small or too big to bid on?**
Depends on the job. Size doesn't matter if competent. Will staff if have to. If don't know client, then too small. If we know the client, then will do a small job.
13. **What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**
Level. But not looking to grow. Too big forces you to do whatever you have to

do to get the money to sustain the Monster!

14. How do you as a business owner adapt to market-place changes?

Wing it! Gut feel for the industry. Experience based decisions, look ahead to future markets. Make preparations for down turns.

15. What was your 'lucky break'?

Not really. Hard work pays off.

16. What is a business decision that you made that you now may regret?

Yes. Mistakes help to do better for the future. Experience. Most are not business threatening. Bidding too low. Because did not know the client. Have to turn down business because of client. Hired wrong people. Recognize as soon as you can and fire them.

17. Are there any government regulations or components of the MS legal system that hinders your business from growing?

Regulations in general. Some are good because engineers can make money on them. Wetland regulations cause some contracts to fail.

18. Does your business have a website?

Yes.

19. What kind of credentials does your business operate under?

PE, PLS and CoA in AL and MS.

20. How do you locate, hire, and keep talent on your work force?

Word of mouth to locate. Don't be afraid to hire someone who has made mistakes in the past if they have learned from it. Decent pay, freedom at work, don't micro-manage, boss is one of the workers, team aspect, cross trained makes for pleasant work place.

21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?

Talent of workforce.

22. How do you cope with the issues of 'too much business' and 'too little business'?

Work harder and try to ride it out. Too much work makes you worry and feel bad because you cannot finish as soon as you want to. Try not to hire people because of emotion. People are not machines that you hire for 6 months and then let go.

23. What is your biggest challenge now?

National economy.

24. What do you see are your greatest challenges of the future?

Finding enough qualified people to do work! Keeping up with regulations and technology that is needed to comply with regulations.

Company #10

1. **What services do you provide?**
Land surveying and civil engineering.
2. **What was your biggest business challenge during start-up?**
NA
3. **How did you raise starting capital?**
One individual by himself. Started small and reinvested.
4. **How did you find your niche market?**
Surveying, smaller clients.
5. **How did you use your niche market to grow your company?**
Built business word of mouth, work reputation.
6. **What is your preferred method for reaching clients?**
They find us. Recommendations.
7. **Where is the location of your original business?**
Hattiesburg, MS.
8. **Why did you choose this place?**
Grew up there.
9. **How far do you do work from your home office?**
Perry, Lamar, and Forest county.
10. **Is there a job that would be too far away?**
Yes.
11. **Do you do business outside of Mississippi?**
No.
12. **Is there a job that would be too small or too big to bid on?**
No.
13. **What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**
NA
14. **How do you as a business owner adapt to market-place changes?**

Government and utility contracts changes in policy and funding and grants affect choice.

15. What was your 'lucky break'?

No. Getting Lamar County as main clients.

16. What is a business decision that you made that you now may regret?

No.

17. Are there any government regulations or components of the MS legal system that hinders your business from growing?

No.

18. Does your business have a website?

Yes.

19. What kind of credentials does your business operate under?

PE, PLS, CoA.

20. How do you locate, hire, and keep talent on your work force?

Through MS State career center and departments for prospects. Enjoyable work atmosphere.

21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?

Low overhead.

22. How do you cope with the issues of 'too much business' and 'too little business'?

Steady.

23. What is your biggest challenge now?

None known. Getting funding for different projects to sustain business.

24. What do you see are your greatest challenges of the future?

Same as 23.

Company #11

- 1. What services do you provide?**
Civil engineering, foundations, structural engineering, and land surveying.
- 2. What was your biggest business challenge during start-up?**
Personnel hiring the right person and not hiring the wrong person
Must work to get paid.
- 3. How did you raise starting capital?**
Worked at other jobs, bought small house, savings, and borrow the rest.
Keep business small, and build up.
- 4. How did you find your niche market?**
Looking for it. Still looking for it. Had plan. Evaluated every 6 months.
Can't compete with big firms on big projects. So, we go for small jobs with quick turn-around. Can do it in a week. Personal service. Treat each one fairly as lifelong client. Making money is a by-product, will do right thing, serves as advertising.
- 5. How did you use your niche market to grow your company?**
Not interested in growing business, but with growing trust. Build reputation to build business for future. Can eventually be choosy about jobs.
Build personal interest.
- 6. What is your preferred method for reaching clients?**
Go to real estate offices for surveying services. High quality letter head, clean neat appearance. Personal contact, ad in yellow pages. Not interested in doing low quality service. Insurance for hands on service and contact.
- 7. Where is the location of your original business?**
Aberdeen, MS.
- 8. Why did you choose this place?**
Where business was when bought it. Is county seat so advantage to be close to court house. Is central to county. Family near-by.
- 9. How far do you do work from your home office?**
Anywhere in MS. Local people trust me to go to anywhere. 95% is 100 mi radius 75% is in county.
- 10. Is there a job that would be too far away?**
Only in MS.

11. Do you do business outside of Mississippi?

No.

12. Is there a job that would be too small or too big to bid on?

Not too small, too big yes. Don't want to hire people for short term big jobs. Can work OT to do medium jobs.

13. What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?

Same net. Gross 50% more. Business down.

14. How do you as a business owner adapt to market-place changes?

Do more than one service. Try to be cautious about how handle business money. Safety net account 3 to 6 months of expenses. Keep low overhead.

15. What was your 'lucky break'?

Helped that was doing same work in same building. People knew about the existing business and knew Mr. Schrock.

16. What is a business decision that you made that you now may regret?

Yes. Had same name of previous owner. People wanted him to fix problems that were from old owner for next to nothing. Had to rename the company. Build own reputation.

17. Are there any government regulations or components of the MS legal system that hinders your business from growing?

Yes. 50-70 % of time keeping up with taxes. Frustration of trying to figure the complexities.

18. Does your business have a website?

Not really. People want small jobs done far away.

19. What kind of credentials does your business operate under?

PE, PLS, CoA.

20. How do you locate, hire, and keep talent on your work force?

Have to be willing to pay more than minimum wage 3x. Have part time workers. Want to see what they expect to get out of job. If ask about benefits first, then no good. Good days work. Proud of where they work and what kind of work they do. Don't have to be really smart, but have good work ethic.

21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?

Quick turn around on jobs.

22. How do you cope with the issues of ‘too much business’ and ‘too little business’?

Work with other engineers to do bigger jobs, work lean. Work for public welfare not to put competitors out of business.

23. What is your biggest challenge now?

Personnel. Have to replace older engineer. He possesses institutional knowledge.

24. What do you see are your greatest challenges of the future?

Unknown future for business. Google earth is perceived as surveying. Stay ahead of the curve and not be complacent. Stay on top of changes in business. Keep personal service with clients.

Company #12

- 1. What services do you provide?**
General civil land surveying, water sewer streets and subdivisions.
- 2. What was your biggest business challenge during start-up?**
Learning how to run a business. Starting a new business would be difficult because don't have a client base. Easier to take over existing clients.
- 3. How did you raise starting capital?**
Borrowed from bank, first self-funded.
- 4. How did you find your niche market?**
Small business, repeat customers.
- 5. How did you use your niche market to grow your company?**
Not really. All repeat and relationship business. 10% of time per week on marketing.
- 6. What is your preferred method for reaching clients?**
Face to face. Repeat business. Clients are not internet savvy. Don't use social media.
- 7. Where is the location of your original business?**
Yazoo City, MS.
- 8. Why did you choose this place?**
Was location of original business. Grew up there.
- 9. How far do you do work from your home office?**
65 mile radius.
- 10. Is there a job that would be too far away?**
Not really. Depends on opportunity.
- 11. Do you do business outside of Mississippi?**
No.
- 12. Is there a job that would be too small or too big to bid on?**
Yes, too big. Limited employees and resources. ~6.5 million. Not too small.
- 13. What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**

More. Because of technology. Can do work with less people. 20%.

14. How do you as a business owner adapt to market-place changes?

Offer many different services.

15. What was your 'lucky break'?

Opportunity to work for existing firm. And then to buy it. Former partner quit. And he moved up.

16. What is a business decision that you made that you now may regret?

Personnel. Wrong people hired. Couldn't fire them quickly enough.

17. Are there any government regulations or components of the MS legal system that hinders your business from growing?

Yes. Don't have a certificate of merit bill that did not get passed. Law suit of friend who should not have been sued. Regulatory for environmental projects is better for business.

18. Does your business have a website?

In process.

19. What kind of credentials does your business operate under?

PE, PLS, CoA for both.

20. How do you locate, hire, and keep talent on your work force?

Other companies always try to steal employees. Raise salaries. Retaining talent is difficult. Open relationship with employees. Let employees redo their offices. Grant gas allowances. Cell phones.

21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?

Accessibility to the boss. Available to clients at all times. Treat clients as if they are the only customers we have. Before during and after involvement. History of involvement.

22. How do you cope with the issues of 'too much business' and 'too little business'?

Want too much business. Not a problem. Problems with capacity such as tight deadline. Work harder OT.

23. What is your biggest challenge now?

Collections on slow or non-payment. Even with contracts. Even with towns.

24. What do you see are your greatest challenges of the future?

Retaining employees keeping and training qualified employees. Not many people want to move to Yazoo city. Customers looking at cut backs. Will have to adjust to lower demand. Generalized business so that a weak market can be supplemented by stronger markets.

Company #13

1. **What services do you provide?**
Surveying.
2. **What was your biggest business challenge during start-up?**
Employee relations.
3. **How did you raise starting capital?**
Business already established, boom time, plenty of work.
4. **How did you find your niche market?**
Business established kept it going.
5. **How did you use your niche market to grow your company?**
Had plenty of work. Lost because of too much work.
6. **What is your preferred method for reaching clients?**
Word of mouth.
7. **Where is the location of your original business?**
Pontotoc, MS.
8. **Why did you choose this place?**
Business already established.
9. **How far do you do work from your home office?**
MS, within 100 miles.
10. **Is there a job that would be too far away?**
100 miles, 15 counties around.
11. **Do you do business outside of Mississippi?**
No.
12. **Is there a job that would be too small or too big to bid on?**
None too small. Maybe too large because of limited man power.
13. **What is the percentage difference of your gross yearly revenue now vs. your first year, year of business? How much has your company grown since the first year, percentagewise?**
Less now due to economic decline. 70 – 90 was good. Till 2003. Then started to go

down. Down ~40 percent.

14. How do you as a business owner adapt to market-place changes?

Follow construction trends.

15. What was your 'lucky break'?

None. Hard work every day. Constant work.

16. What is a business decision that you made that you now may regret?

Not really.

17. Are there any government regulations or components of the MS legal system that hinders your business from growing?

No.

18. Does your business have a website?

No.

19. What kind of credentials does your business operate under?

PLS.

20. How do you locate, hire, and keep talent on your work force?

Been lucky with good people.

21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?

Reputation and network.

22. How do you cope with the issues of 'too much business' and 'too little business'?

Borrow money or tap nest egg. Work overtime.

23. What is your biggest challenge now?

Work load too light.

24. What do you see are your greatest challenges of the future?

Work load too light.

Company #14

1. **What services do you provide?**
Civil and environmental engineering.
2. **What was your biggest business challenge during start-up?**
Knowing how to manage expenses vs. income.
3. **How did you raise starting capital?**
Started from own income.
4. **How did you find your niche market?**
Native to local area. Designing waste water treatment and distribution systems through personal contact. Went project to project. Word of mouth. Some advertising.
5. **How did you use your niche market to grow your company?**
Built reputation with each job.
6. **What is your preferred method for reaching clients?**
Word of mouth.
7. **Where is the location of your original business?**
Vicksburg, MS.
8. **Why did you choose this place?**
Lived there.
9. **How far do you do work from your home office?**
Ms and LA.
10. **Is there a job that would be too far away?**
Not really. Limited by license.
11. **Do you do business outside of Mississippi?**
Yes.
12. **Is there a job that would be too small or too big to bid on?**
Not really. Can pull in others to help on larger projects.
13. **What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**
Prior to 2008 >100,000 but since has been a lot lower. Most jobs are private industry not government.

- 14. How do you as a business owner adapt to market-place changes?**
Have to learn new skills when times are slow or fast. Learn other software for the different facets of jobs. Obtain other skills that are not necessarily engineering skills.
- 15. What was your 'lucky break'?**
Local developers' residential subdivision boom. Engineer for rural water associations through people he knew.
- 16. What is a business decision that you made that you now may regret?**
Retired from corps of engineers in 2004, but should have stayed in for 10 more years.
- 17. Are there any government regulations or components of the MS legal system that hinders your business from growing?**
Not really.
- 18. Does your business have a website?**
Yes.
- 19. What kind of credentials does your business operate under?**
PE, CoA for MS and LA.
- 20. How do you locate, hire, and keep talent on your work force?**
Don't really have any employees. Let them work on it as a contractor with more and more work later.
- 21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?**
Experience and honesty about hours worked. Stick with price. Individual attention better than larger firm.
- 22. How do you cope with the issues of 'too much business' and 'too little business'?**
Work with architects and other firms to shop out or take on smaller projects. Can bring in drafters and such if needed.
- 23. What is your biggest business challenge now?**
Economy, financial, cost increases and lower income.
- 24. What do you see are your greatest business challenges of the future?**
Financial issues of increasing costs. Software goes up every year, insurance.

Company #15

- 1. What services do you provide?**
Civil work and land surveying.
- 2. What was your biggest business challenge during start-up?**
Getting clients.
- 3. How did you raise starting capital?**
Borrowed and saved.
- 4. How did you find your niche market?**
Already working for firm went out of business.
- 5. How did you use your niche market to grow your company?**
Word of mouth.
- 6. What is your preferred method for reaching clients?**
Return clients. Good work and reputation to keep them.
- 7. Where is the location of your original business?**
Jackson, MS.
- 8. Why did you choose this place?**
Moved when other business got out of civil work. Happenstance.
- 9. How far do you do work from your home office?**
150 miles.
- 10. Is there a job that would be too far away?**
Not if you pay me.
- 11. Do you do business outside of Mississippi?**
No.
- 12. Is there a job that would be too small or too big to bid on?**
Yes. No municipal work. No private too big.
- 13. What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**
Less than started. 10 fold before 2008.
- 14. How do you as a business owner adapt to market-place changes?**
Save through good and suffer through bad. Upgrade equipment.

15. What was your 'lucky break'?

Already had clients from other business when took over.

16. What is a business decision that you made that you now may regret?

No.

17. Are there any government regulations or components of the MS legal system that hinders your business from growing?

No.

18. Does your business have a website?

No.

19. What kind of credentials does your business operate under?

PLS, PE, CoA.

20. How do you locate, hire, and keep talent on your work force?

People who work with them bring in people they know.

21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?

Good clients. Reputation.

22. How do you cope with the issues of 'too much business' and 'too little business'?

NA

23. What is your biggest challenge now?

Making payroll.

24. What do you see are your greatest challenges of the future?

Making payroll.

Company #16

- 1. What services do you provide?**
Civil engineering, land surveying, environmental engineering.
- 2. What was your biggest business challenge during start-up?**
Finding work/clients.
- 3. How did you raise starting capital?**
Borrowed money.
- 4. How did you find your niche market?**
Provide good service for all clients. Work with others.
- 5. How did you use your niche market to grow your company?**
NA
- 6. What is your preferred method for reaching clients?**
Personal contact. Trade shows. Hand out information. Go see them.
- 7. Where is the location of your original business?**
Tupelo and Pontotoc. Partners work and live in the area. Contacts there.
- 8. Why did you choose this place?**
Partners work and live in the area. Contacts there.
- 9. How far do you do work from your home office?**
Texas, LA, TN, AL, MS.
- 10. Is there a job that would be too far away?**
No.
- 11. Do you do business outside of Mississippi?**
Yes.
- 12. Is there a job that would be too small or too big to bid on?**
No.
- 13. What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**
Up. 800,000 to several million dollars.
- 14. How do you as a business owner adapt to market-place changes?**

Diversification. Private and municipal. Lot of work for Bank Corps South and Ole Miss. Would like to work for state.

15. What was your 'lucky break'?

Not really. Many. Good people for clients.

16. What is a business decision that you made that you now may regret?

Not really. Some clients were not so good. Some projects were not like we thought.

17. Are there any government regulations or components of the MS legal system that hinders your business from growing?

MDOT regulations.

18. Does your business have a website?

Yes.

19. What kind of credentials does your business operate under?

PE, PLS, CoA.

20. How do you locate, hire, and keep talent on your work force?

Word of mouth. Running ads and weeding through resumes. Low turnover.

21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?

Relationships with clients.

22. How do you cope with the issues of 'too much business' and 'too little business'?

Difficult. When is good, don't have enough people. But choose to run lean so don't have to lay off. Have never laid off workers.

23. What is your biggest challenge now?

Keeping work steady.

24. What do you see are your greatest challenges of the future?

Finding new clients and new work.

Company #17

- 1. What services do you provide?**
General civil.
- 2. What was your biggest business challenge during start-up?**
Keeping enough work to pay bills.
- 3. How did you raise starting capital?**
Part of buy-sell agreement rest from on-going contracts.
- 4. How did you find your niche market?**
Two niches. Railroad design. Former owner worked for railroad and had contacts. Industrial site design.
- 5. How did you use your niche market to grow your company?**
They grew and we grew with them. Serviced that market and two main clients and got other general civil clients.
- 6. What is your preferred method for reaching clients?**
Word of mouth and recommendations from current clients.
- 7. Where is the location of your original business?**
Brandon then moved to Madison, MS.
- 8. Why did you choose this place?**
Company changed from sole ownership to employee owned and employee had office space there.
- 9. How far do you do work from your home office?**
Some projects anywhere in U.S., but normally four hours distance.
- 10. Is there a job that would be too far away?**
No.
- 11. Do you do business outside of Mississippi?**
Yes.
- 12. Is there a job that would be too small or too big to bid on?**
Not typically. Maybe too big if get beyond what they can service.
- 13. What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**
Fairly steady due to a large on-going project. If not for that, then would have

declined.

14. How do you as a business owner adapt to market-place changes?

Diversify and market more to pick up more business.

15. What was your 'lucky break'?

Not really. Former president retired. In 2006 – 2010 main client had huge contract.

16. What is a business decision that you made that you now may regret?

Not really. Decision to stay small might have been best or worst.

17. Are there any government regulations or components of the MS legal system that hinders your business from growing?

Don't really do a lot of work with government. Taxes. Regulations bring us work.

18. Does your business have a website?

Not a good one.

19. What kind of credentials does your business operate under?

PE, CoA.

20. How do you locate, hire, and keep talent on your work force?

Try to locate by word of mouth. Don't do lot of public notice of job openings. Retain by competitive salaries and benefits, and family friendly atmosphere.

21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?

Stay small, can have less overhead, stronger eye for detail.

22. How do you cope with the issues of 'too much business' and 'too little business'?

Too much = overtime. Too little = look for more business.

23. What is your biggest challenge now?

Taxes. Engineers' writing skills. Contracts, proposals, grants, etc...

24. What do you see are your greatest challenges of the future?

Clients are going to design-build projects. Not valuing the quality of good design. What is the cheapest that we can do this for. Doesn't give the opportunity to get client good design, have to work with contractor to keep bid low and get job. Lose ability to get with owner to discuss changes that might save money.

Company #18

- 1. What services do you provide?**
Geotechnical, civil engineering materials, and epoxies.
- 2. What was your biggest business challenge during start-up?**
Most work was through fed government. Retired 2008 and USACE hired him to follow construction of big job in LA. And New Orleans. Design-build contracts. Was go-between with contractor and testing to determine specifications. Placement temperatures, ratios of fly ash and Portland cement.
- 3. How did you raise starting capital?**
Didn't have to. Started very small. Retired. Saved before-hand. Got New Orleans contract with Corps.
- 4. How did you find your niche market?**
Retired from Corps. Had contacts from there.
- 5. How did you use your niche market to grow your company?**
Got more contracts from contacts.
- 6. What is your preferred method for reaching clients?**
On list of Corps for concrete materials.
- 7. Where is the location of your original business?**
Vicksburg, MS.
- 8. Why did you choose this place?**
Lived there.
- 9. How far do you do work from your home office?**
As far as Saint Louis, MO, Birmingham, AL, and Meena, AR.
- 10. Is there a job that would be too far away?**
Not really.
- 11. Do you do business outside of Mississippi?**
Yes.
- 12. Is there a job that would be too small or too big to bid on?**
Might be too large. If can do in few weeks to months, then ok. Majority time spent in Vicksburg. Too small = no.
- 13. What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**

125,000 in 2008. 6,000 – 10,000 per year since.

14. How do you as a business owner adapt to market-place changes?

Is the job interesting to me? Pick and choose projects.

15. What was your ‘lucky break’?

Jobs in LA.

16. What is a business decision that you made that you now may regret?

Not really.

17. Are there any government regulations or components of the MS legal system that hinders your business from growing?

No.

18. Does your business have a website?

No.

19. What kind of credentials does your business operate under?

PE.

20. How do you locate, hire, and keep talent on your work force?

NA

21. What is your competitive advantage? What sets you apart from your competition, other than ‘customer service’?

Expert in field and Corps contacts.

22. How do you cope with the issues of ‘too much business’ and ‘too little business’?

Can pick and choose business.

23. What is your biggest challenge now?

None due to unique job description and contacts and reputation.

24. What do you see are your greatest challenges of the future?

Work attitude more than work ethic. Keeping steady work. Job depends on market. Depends on government spending.

Company #19

1. **What services do you provide?**
Civil engine land surveying.
2. **What was your biggest business challenge during start-up?**
Getting clients. Interested in private sector but most jobs were municipal.
3. **How did you raise starting capital?**
Savings.
4. **How did you find your niche market?**
Private sector.
5. **How did you use your niche market to grow your company?**
Word of mouth and focused on private sector.
6. **What is your preferred method for reaching clients?**
Word of mouth.
7. **Where is the location of your original business?**
Jackson, MS.
8. **Why did you choose this place?**
NA
9. **How far do you do work from your home office?**
MS.
10. **Is there a job that would be too far away?**
Not in MS.
11. **Do you do business outside of Mississippi?**
No.
12. **Is there a job that would be too small or too big to bid on?**
Not too big. Depends on project and owner's needs.
13. **What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**
Growth, but declined 2010.
14. **How do you as a business owner adapt to market-place changes?**
Work harder. Laid off one person. Computer tech.

- 15. What was your 'lucky break'?**
Had best clients loyal.
- 16. What is a business decision that you made that you now may regret?**
Not really.
- 17. Are there any government regulations or components of the MS legal system that hinders your business from growing?**
No.
- 18. Does your business have a website?**
Getting one.
- 19. What kind of credentials does your business operate under?**
PE, PLS, CoA,
- 20. How do you locate, hire, and keep talent on your work force?**
They come to us. Check references. Word of mouth. Small community. Pay and benefits.
- 21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?**
Nothing really.
- 22. How do you cope with the issues of 'too much business' and 'too little business'?**
Too much = overtime. Too little = do more work if possible.
- 23. What is your biggest challenge now?**
Keeping busy.
- 24. What do you see are your greatest challenges of the future?**
Steady work.

Company #20

- 1. What services do you provide?**
Land Surveying and civil engineering – general.
- 2. What was your biggest business challenge during start-up?**
Passed down. Father was elderly and work wasn't that great, had to overcome lack of technology.
- 3. How did you raise starting capital?**
Did not need to.
- 4. How did you find your niche market?**
Found the clientele that wanted a good product on time, on budget, for a good price. And of course correctly done.
- 5. How did you use your niche market to grow your company?**
After a time, the quality of product spread and people started using me for the service I provided.
- 6. What is your preferred method for reaching clients?**
Word of mouth or repeat business.
- 7. Where is the location of your original business?**
Picayune, MS.
- 8. Why did you choose this place?**
That's where the original business was.
- 9. How far do you do work from your home office?**
One hour drive time, 60 miles.
- 10. Is there a job that would be too far away?**
Not really. All over MS.
- 11. Do you do business outside of Mississippi?**
No.
- 12. Is there a job that would be too small or too big to bid on?**
Not too small. Gets too big when the request for proposals bring me out of the qualification realm.
- 13. What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?**

Declined 66% due to the economic decline of 2007-2008.

14. How do you as a business owner adapt to market-place changes?

I continue to run business, but have taken a full time day job. Hire people.

15. What was your 'lucky break'?

I am second generation engineer and surveyor. Father started job before me.

16. What is a business decision that you made that you now may regret?

During our big upswing after Katrina, I hired more people to try to build my business thinking I was going to move up to the next level of engineering firms. Should have worked harder myself to make more money for me. Increased overhead too much.

17. Are there any government regulations or components of the MS legal system that hinders your business from growing?

Not regulations per se, but the internal municipal politics that favor one particular firm over other qualified firms. They seem to get all of the government contracts.

18. Does your business have a website?

No. Did have one till business declined.

19. What kind of credentials does your business operate under?

PE, PLS, CoA.

20. How do you locate, hire, and keep talent on your work force?

Locate: engineer called me word of mouth. Buddy system. Keep: Pay them well. Slightly higher than average.

21. What is your competitive advantage? What sets you apart from your competition, other than 'customer service'?

Being small and customer satisfaction. Established customers are more important.

22. How do you cope with the issues of 'too much business' and 'too little business'?

Too little: lay-offs and got a full time job. Too big: hired people. Sub work out to other firms that I personally knew.

23. What is your biggest challenge now?

Politics.

24. What do you see are your greatest challenges of the future?

Politics.

APPENDIX C

QUESTIONS ASKED WITH ANSWERS FROM ALL FIRMS

1. What services do you provide?

1. They provide civil engineering, land planning, and subdivisions services.
2. General civil surveying environmental.
3. General civil site plan design, surveying, waste water, street drainage.
4. Geotechnical, qc, materials, accredited soils lab.
5. Geotechnical, qc, materials, accredited soils lab.
6. Civil engineering, environmental, surveying.
7. Civil surveying and test lab.
8. Civil engineering, surveying and development of commercial properties, water and sewer sub division, transportation.
9. Civil surveying.
10. Land surveying and civil engineering.
11. Civil engineering, foundations, structural engineering, and land surveying.
12. General civil land surveying, water sewer streets and subdivisions.
13. Surveying.
14. Civil and environmental engineering.
15. Civil work and land surveying.
16. Civil engineering, land surveying, environmental engineering.
17. General civil.
18. Geotechnical, civil engineering materials, and epoxies.
19. Civil engine land surveying.
20. Civil engine land surveying.

2. What was your biggest business challenge during start-up?

1. Cash flow.
2. Finding qualified staff.
3. Side work and getting enough work to get established. Have building and now lease out part of it.
4. Getting new work after Katrina boom. Relations with clients. Outside from LA. People want local people to do work. From MS. Employees are local.
5. na
6. Had experience but no money. Hired as county engineer while starting up. Picked up Webster County as county engineer. Later quit bc of distance.
7. Had two older partners, had established surveying business.
8. na
9. Finances.
10. na
11. Personnel hiring the right person and not hiring the wrong person. Must work to get paid.
12. Learning how to run a business. Starting a new business would be difficult because don't have a client base. Easier to take over existing clients.
13. Employee relations.
14. Knowing how to manage expenses vs. income.
15. Getting clients.

16. Finding work/clients.
17. Keeping enough work to pay bills.
18. Most work was through fed gov. retired 2008 and USACE hired him to follow construction of big job in LA. And New Orleans. Design-build contracts. Was go-between with contractor and testing to determine specifications. Placement temperatures, ratios of fly ash and Portland cement.
19. Getting clients. Interested in private sector but most jobs were municipal.
20. Passed down. Father was elderly and work wasn't that great, had to overcome lack of technology.

3. How did you raise starting capital?

1. The owner sold house took profit and borrowed from bank.
2. Financed by company branch office.
3. Started small. Savings. Wife worked.
4. Financed by corporate office.
5. Bank.
6. Struggled through projects from state agents and board of supervisors.
Had big projects but have to wait till project completes before getting contract.
7. Joined established business.
8. na
9. Didn't, worked hard.
10. One individual by himself. Started small and reinvested.
11. Worked at other jobs, bought small house, savings, and borrow the rest.
Keep business small, and build up.
12. Borrowed form bank, first self-funded.
13. Business already established, boom time, plenty of work.
14. Started from own income.
15. Borrowed and saved.
16. Borrowed money.
17. Part of buy-sell agreement rest from on-going contracts.
18. Didn't have to. Started very small. Retired. Saved before-hand. Got
New Orleans contract with Corps.

19. Savings.

20. Did not need to.

4. How did you find your niche market?

1. Market found *them*. They were willing to do highway department work.
Then they built personal relationships with clients.
2. Worked for Jackson for 20 years, made contacts, and personal relationships.
3. We evolved and understood that we cannot compete with large firms, so we take smaller work that larger firms weren't interested in, and we are price competitive.
4. Coastal work. Casinos. Local business was good.
5. Ms delta lack of competition.
6. Board of supervisors and state aid division.
7. Surveying, stayed in same area for long time.
8. 1969 not many surveyors low demand.
9. No state or fed work. Private preference. Land development.
10. Surveying, smaller clients.
11. Looking for it. Still looking for it. Had plan. Evaluated every 6 months.
Can't compete with big firms on big projects. So, we go for small jobs with quick turn-around. Can do it in a week. Personal service. Treat each one fairly as life-long client. Making money is a by-product, will do right thing, serves as advertising.
12. Small business, repeat customers.
13. Business established kept it going.

14. Native to local area. Designing waste water treatment and distribution systems through personal contact. Went project to project. Word of mouth. Some advertising.
15. Already working for firm went out of business.
16. Provide good service for all clients. Work with others.
17. Two niches. Railroad design. Former owner worked for railroad and had contacts. Industrial site design.
18. Retired from Corps. Had contacts from there.
19. Private sector.
20. Found the clientele that wanted a good product on time, on budget, for a good price. And of course correctly done.

5. How did you use your niche market to grow your company?

1. They do not advertise. They use word of mouth.
2. Anyway we could.
3. Grew business from volume of work and gained name recognition over time.
4. Much local work. Put new office where business was.
5. na
6. Consulting with above.
7. na
8. Good relations.
9. All are in marketing. Marketing with current client. Keep clients. Word of mouth. Personal relationships. Good work reputation.
10. Built business word of mouth, work reputation.
11. Not interested in growing business, but with growing trust. Build reputation to build business for future. Can eventually be choosy about jobs. Build personal interest.
12. Not really. All repeat and relationship business. 10% of time per week on marketing.
13. Had plenty of work. Lost because of too much work.
14. Built reputation with each job.
15. Word of mouth.
16. na

17. They grew and we grew with them. Serviced that market and two main clients and got other general civil clients.
18. Got more contracts from contacts.
19. Word of mouth and focused on private sector.
20. After a time, the quality of product spread and people started using me for the service I provided.

6. What is your preferred method for reaching clients?

1. Personal relationships.
2. Finding qualified staff.
3. Referred work.
4. Bid sheets. Cold calls. Business Lunches. Personal relationships.
Functions at large firms.
5. Established clients, repeat business.
6. Word of mouth, newspaper ad.
7. Experience and proven record, word of mouth and building relationships.
8. Word of mouth.
9. Good rep and word of mouth. Not a lot of advertising or marketing.
Don't like hobnobbing.
10. They find us. Recommendations.
11. Go to real estate offices for surveying services. High quality letter head,
clean neat appearance. Personal contact, ad in yellow pages. Not
interested in doing low quality service. Insurance for hands on service and
contact.
12. Face to face. Repeat business. Clients are not internet savvy. Don't use
social media.
13. Word of mouth.
14. Word of mouth.
15. Return clients. Good work and reputation to keep them.
16. Personal contact. Trade shows. Hand out information. Go see them.

17. Word of mouth and recommendations from current clients.
18. On list of Corps for concrete materials.
19. Word of mouth.
20. Word of mouth or repeat business.

7. Where is the location of your original business?

1. Biloxi, MS.
2. Stantech – national.
3. Terry, MS. We started the business out of the house.
4. Gulfport, MS. Original business is in Louisiana.
5. Indianola, MS.
6. Pontotoc, MS.
7. Natchez, MS.
8. Wiggins, MS.
9. Meridian, MS.
10. Hattiesburg, MS.
11. Aberdeen, MS.
12. Yazoo city, MS.
13. Pontotoc, MS.
14. Vicksburg, MS.
15. Jackson, MS.
16. Tupelo and Pontotoc. Partners work and live in the area. Contacts there.
17. Brandon then moved to Madison, MS.
18. Vicksburg, MS.
19. Jackson, MS.
20. Picayune, MS.

8. Why did you choose this place?

1. Owner lived there, and he thought it was a business growth area.
2. Geographically close to Baton Rouge, right person to start the branch office was close.
3. Closest town to where lived. Got property at good price because of relationships.
4. Lived there.
5. That's where the original business was.
6. Bought existing firm.
7. Went to Gulfport for Katrina boom.
8. Bought existing firm.
9. Grew up there.
10. Born and raised there.
11. Wife's mother lived there.
12. Grew up there.
13. Where business was when bought it. Is county seat so advantage to be close to courthouse. Is central to county. Family near-by.
14. Business already established. Lived there.
15. Moved when other business got out of civil work. Happenstance.
16. Partners work and live in the area. Contacts there.
17. Company changed from sole ownership to employee owned and employee had office space there.
18. Lived there.

19. na

20. That's where the original business was.

9. How far do you do work from your home office?

1. Anywhere in Mississippi.
2. All over MS.
3. Anywhere in MS.
4. Less than 75 miles.
5. MS.
6. 50 – 60 miles.
7. 100 mi.
8. Original owner was from there.
9. Job specific. Within 60 miles..
10. Perry, Lamar, and Forest county.
11. Anywhere in MS. Local people trust me to go to anywhere. 95% is
100 mi radius 75% is in county.
12. 65 mile radius.
13. MS, within 100 miles.
14. Not really. Limited by license.
15. 150 miles.
16. Texas, LA, TN, AL, and MS.
17. Some projects anywhere in U.S., but normally four hours distance.
18. As far as Saint Louis, MO, and Birmingham, AL, Meena, AR.
19. MS.
20. One hour drive time, 60 miles.

10. Is there a job that would be too far away?

1. Outside of Mississippi.
2. Depends on the job.
3. Out of MS. Getting license for other states.
4. Yes. More than ~75 away is the threshold of no longer being competitive with bids.
5. Depends on price. Large jobs are ok.
6. 60 plus miles.
7. No.
8. Job specific. If licensed in other states.
9. Job specific niche market items of expertise.
10. Yes.
11. Only in MS.
12. Not really. Depends on opportunity.
13. 100 miles, 15 counties around.
14. Not really. Limited by license.
15. Not If you pay me!
16. No.
17. No.
18. Not really.
19. Not in MS.
20. Not really. All over MS.

21.

11. Do you do business outside of Mississippi?

1. No, but possibly in future.
2. No.
3. No.
4. Yes.
5. Yes, Arkansas.
6. No.
7. Yes, AL, TN, LA, and TX.
8. Yes.
9. Yes, AL.
10. No.
11. No.
12. No.
13. No.
14. Yes.
15. No.
16. Yes.
17. Yes.
18. Yes.
19. No.
20. No.

12. Is there a job that would be too small or too big to bid on?

1. Not really. Too big would be a problem. Up to 50 million and down to one lot for a house.
2. Not right now bc of larger company, can do all of engineering.
3. No. can team up with other engineers to do bigger jobs.
4. Risk matters not size. Smaller jobs have more risks. Bc price is low with same risk as big jobs.
5. Don't bid on services. Too small.
6. Not too small. Get help with bigger jobs.
7. Bigger jobs get associates to help. Try to keep business at even level.
8. No.
9. Depends on the job. Size doesn't matter if competent. Will staff if have to. If don't know client, then too small. If we know the client then will do a small job.
10. No.
11. Not too small, too big yes. Don't want to hire people for short term big jobs. Can work OT to do medium jobs.
12. Yes. Limited folks and resources. ~6.5 million. Not too small.
13. None too small. Maybe too large bc of limited man power
14. Not really. Can pull in others to help on larger projects.
15. Yes. No municipal work. No private too big.
16. No.

17. Not typically. Maybe too big if get beyond what they can service.
18. Might be too large. If can do in few weeks to months, then ok. Majority time spent in Vicksburg. Too small = no.
19. Not too big. Depends on project and owner's needs.
20. Not too small. Gets too big when the request for proposals brings me out of the qualification realm.

13. What is the percentage difference of your gross yearly revenue now vs. your first year of business? How much has your company grown since the first year, percentagewise?

1. Approximately 200%. We have had lots of ups and downs.
2. Na
3. ~500% 5 – 10 times.
4. na
5. na
6. About the same. Business slow. During presidential election year.
7. na
8. na
9. Level. But not looking to grow. Too big forces you to do whatever you have to do to get the money to sustain the Monster!
10. na
11. Same net. Gross 50% more. Business down.
12. More. Because of technology. Can do work with less people.
13. 20% Less now due to economic decline. 70 – 90 was good. Till 2003.
Then started to go down.
14. Down ~40 percent.
15. Less than started. 10 fold before 2008.
16. Up. 800,000 to several million dollars.
17. Fairly steady due to a large on-going project. If not for that, then would have declined.

18. 125,000 in 2008. 6,000 – 10,000 per year since.
19. Growth, but declined 2010.
20. Declined 66% due to the economic decline of 2007-2008.

14. How do you as a business owner adapt to market-place changes?

1. We do work on a percentage. Our market and business is based on the economy.
2. Being aware of the changes and how they are changes. Notice and fix problems.
3. Willing to do other types of work. When one slows, go to others.
Take small jobs.
4. Trying to bid correctly. Have high overhead.
5. na
6. Upgrade equipment and software.
7. na
8. Change to meet job demands, but keep basic business the same.
9. Wing it! Gut feel for the industry. Experience based decisions, look ahead to future markets. Make preparations for down turns.
10. Government and utility contracts changes in policy and funding and grants affect choice.
11. Do more than one service. Try to be cautious about how handle business money. Safety net account 3 to 6 months of expenses. Keep low overhead.
12. Offer many different services.
13. Follow construction trends.

14. Have to learn new skills when times are slow or fast. Learn other software for the different facets of jobs. Obtain other skills that are not necessarily engineering skills.
15. Save through good and suffer through bad. Upgrade equipment.
16. Diversification. Private and municipal. Lot of work for Bank Corps South and Ole Miss. Would like to work for state.
17. Diversify and market more to pick up more business.
18. Is the job interesting to me? Pick and choose projects.
19. Work harder. Laid off one person. Computer tech.
20. I continue to run business, but have taken a full time day job. Hire people.

15. What was your 'lucky break'?

1. Not really any lucky breaks for us. We work by the project.
2. Work every day.
3. Not really. Fortunate that work comes in at appropriate time. Rare to have little or no work.
4. Not really. Had established clients. Katrina work.
5. Hard work.
6. No. hard work.
7. Had two good partners.
8. Hard work.
9. Not really. Hard work pays off.
10. No. Getting Lamar County as main clients.
11. Helped that was doing same work in same building. People knew about the existing business. And knew Mr. Schrock.
12. Opportunity to work for existing firm. And then to buy it. Former partner quit. And he moved up.
13. None. Hard work every day. Constant work.
14. Local developers residential subdivision boom. Engineer for rural water associations through people he knew.
15. Already had clients from other business when took over.
16. Not really. Many. Good people for clients.
17. Not really. Former president retired. In 2006 – 2010 main client had huge contract.

18. Jobs in LA.

19. Had best clients loyal.

20. I am second generation engineer and surveyor. Father started job before me.

16. What is a business decision that you made that you now may regret?

1. Not really.
2. People hired.
3. na
4. Personnel. Jobs that lost money. Vendor contracts.
5. Not really.
6. Contracts that did not make any money. Maybe took loss. Too many corrections. Lack of communication on project. Trouble with too many bosses. Different ideas.
7. Not really. Steady all along.
8. na
9. Yes. Mistakes help to do better for the future. Experience. Most are not business threatening. Bidding too low. Bc did not know the client. Have to turn down business bc of client. Hired wrong people. Recognize as soon as you can and fire them.
10. No.
11. Yes. Had same name of previous owner. People wanted him to fix problems that were from old owner for next to nothing. Had to rename the company. Build own reputation.
12. Personnel. Wrong people hired. Couldn't fire them quickly enough.
13. Not really.
14. Retired from corps of engineers in 2004, but should have stayed in for 10 more years.

15. No.

16. Not really. Some clients were not so good. Some projects were not like we thought.

17. Not really. Decision to stay small might have been best or worst.

18. No.

19. Not really.

20. During our big upswing after Katrina, I hired more people to try to build my business thinking I was going to move up to the next level of engineering firms. Should have worked harder myself to make more money for me. Increased overhead too much.

17. Are there any government regulations or components of the MS legal system that hinders your business from growing?

1. Environmental regulations and regulations of local municipalities.
2. Yes. Tax code. Construction regulations.
3. Not really. Hard to get proposals.
4. Not really. Political issues with established companies.
5. No.
6. DEQ regulations for wetlands preservation report and erosion control for no extra pay. Must present it to corps of engineers, fish and wildlife, and EPA for approval. Extra costs involved especially from EPA. Writing reports.
7. Federal regulations.
8. na
9. Regulations in general. Some are good because engineers can make money on them. Wetland regulations cause some contracts to fail.
10. No.
11. Yes. 50-70 % of time keeping up with taxes. Frustration of trying to figure the complexities.
12. Yes. Don't have a certificate of merit bill that did not get passed. Law suit of friend who should not have been sued. Regulatory for environmental projects is better for business.
13. No.
14. Not really.

15. No.

16. Mdot regulations.

17. Don't really do a lot of work with government. Taxes. Regulations bring us work.

18. No

19. No.

20. Some.

18. Does your business have a website?

1. No.
2. Yes.
3. No.
4. Yes.
5. Yes.
6. No.
7. Yes.
8. In construction.
9. Yes.
10. Yes.
11. Not really. People want small jobs done far away.
12. In process.
13. No.
14. Yes.
15. No.
16. Yes.
17. Not a good one.
18. No.
19. Getting one.
20. Yes. Did have one till business declined.

19. What kind of credentials does your business operate under?

1. PE and CoA.
2. Business license for engineers and surveyors. CoA. PE surveyors.
3. PE business license.
4. PE of record, CoA.
5. PE, surveying, CoA for both.
6. PE, PLS no CoA.
7. PE, PLS, CoA.
8. PE, PLS, CoA, and CoR.
9. PE, PLS, CoA, in AL and MS.
10. PE, PLS, CoA.
11. PE, PLS, CoA.
12. PE, PLS, CoA for both.
13. PLS.
14. PE, CoA for MS and LA.
15. PLS, PE, and CoA.
16. PE, PLS, and CoA.
17. PE, CoA.
18. PE.
19. PE, PLS, and CoA.
20. PE, PLS, and CoA.

20. How do you locate, hire, and keep talent on your work force?

1. We are just two people. They have not hired engineers yet. Owner's son works with them.
2. Personal knowledge. Recruiters do not produce good results. Word of mouth.
3. Hired sons. Not enough work to hire. Long-time friend IT knowledge.
4. Haven't hired. Laid-off. Interviews announced through newspapers and website, and head hunters. Transfers from other offices. Compensation for worth of employees. Good work environment. Good leadership and employee relations.
5. Hiring difficult. No one wants to move to delta.
6. Keep people with experience. People have side jobs (cattle, farming) freedom, good leadership, time off for whatever, treat employees well, check references for moral conditions not lazy, but not overly concerned about good grades on a transcript.
7. Like the area. Good working environment.
8. No big turnover. Wonderful employer to work. Very fair and generous. Good leadership.
9. Word of mouth to locate. Don't be afraid to hire someone who has made mistakes in the past if they have learned from it. Decent pay, freedom at work, don't micro-manage, boss is one of the workers, team aspect, cross trained makes for pleasant work place.

10. Through MS State career center and departments for prospects.
Enjoyable work atmosphere.
11. Have to be willing to pay more than minimum wage 3x. Have part time workers. Want to see what they expect to get out of job. If ask about benefits first, then no good. Good days work. Proud of where they work and what kind of work they do. Don't have to be really smart, but have good work ethic.
12. Other companies always try to steal employees. Raise salaries.
Retaining talent is difficult. Open relationship with employees. Let employees redo their offices. Grant gas allowances. Cell phones.
13. Been lucky with good people.
14. Don't really have any employees. Let them work on it as a contractor with more and more work later.
15. People who work with them bring in people they know.
16. Word of mouth. Running ads and weeding through resumes. Low turnover.
17. Try to locate by word of mouth. Don't do lot of public notice of job openings. Retain by competitive salaries and benefits, and family friendly atmosphere.
18. na
19. They come to us. Check references. Word of mouth. Small community. Pay and benefits.

20. Locate: engineer called me word of mouth. Buddy system. Keep:
Pay them well. Slightly higher than average.

21. What is your competitive advantage? What sets you apart from your competition, other than ‘customer service’?

1. Speed of work. Get projects approved and built quickly. Use of technology allows us to keep costs lower than competition. We have achieved low overhead.
2. People who know what they are doing in various areas and have relationships with the clients and hard work.
3. Willing to take on any sized project especially small.
4. Quality service, much experience, original firm since 1946.
5. Technology. Latest equipment and software.
6. Honesty and do a good job. Correct errors when discovered.
7. Good people.
8. Length of stay. Oldest and most experienced.
9. Talent of workforce.
10. Low overhead.
11. Quick turn around on jobs.
12. Accessibility to the boss. Available to clients at all times. Treat clients as if they are the only customers we have. Before during and after involvement. History of involvement.
13. Reputation and network.
14. Experience and honesty about hours worked. Stick with price.
Individual attention better than larger firm.
15. Good clients. Reputation.

16. Relationships with clients.
17. Stay small can have less overhead, stronger eye for detail.
18. Expert in field and corps contacts.
19. Nothing really.
20. Being small and customer satisfaction. Established customers are more important.

21. 22. How do you cope with the issues of ‘too much business’ and ‘too little business’?

1. Never too much. We won't take new work if we are too busy. In the case of too little work, we can wait till it picks up again because of our low overhead.
2. Never too much business too little is feared. Share work with other offices.
3. na
4. Comb the pavement, bid cheaper, send people to other branches.
5. Too much: overtime. Shop out some work.
6. Work harder for too much business. Ride it out.
7. Ride it out.
8. Work harder.
9. Work harder and try to ride it out. Too much work makes you worry and feel bad because you cannot finish as soon as you want to. Try not to hire people because of emotion. People are not machines that you hire for 6 months and then let go.
10. Steady.
11. Work with other engineers to do bigger jobs, work lean. Work for public welfare not to put competitors out of business.
12. Want too much business. Not a problem. Problems with capacity such as tight deadline. Work harder OT.
13. Borrow money or tap nest egg. Work overtime.

14. Work with architects and other firms to shop out or take on smaller projects. Can bring in drafters and such if needed.
15. na
16. Difficult. When is good, don't have enough people. But choose to run lean so don't have to lay off. Have never laid off workers.
17. Too much = overtime. Too little = look for more business.
18. Can pick and choose business.
19. Too much = overtime Too little = do more work if possible.
20. Too little: layoffs and got a full time job. Too big: hired people. Sub work out to other firms that I personally knew.

23. What is your biggest challenge now?

1. The economy.
2. Economy.
3. Worry about work coming in. Economy. Construction.
4. Trying to get more work. Sustaining the work load.
5. Hiring employees. Not enough qualified personnel in the area.
6. Struggling for business. Not enough work. Too much competition.
Wasn't able to grow like wanted to. Most business is from state. Must do other work: surveying, environmental engineering, etc...
7. Sustaining business.
8. Get more business.
9. National economy.
10. None known. Getting funding for different projects to sustain business.
11. Personnel. Have to replace older engineer. He possesses institutional knowledge.
12. Collections on slow or non-payment. Even with contracts. Even with towns.
13. Work load too light.
14. Economy, financial, cost increases and lower income.
15. Making payroll.
16. Keeping work steady.
17. Taxes. Engineers' writing skills. Contracts, proposals, grants, etc...

18. None due to unique job description and contacts and reputation.

19. Keeping busy.

20. Politics.

24. What do you see are your greatest challenges of the future?

1. Our company keeping up with technology. Keeping our competitive edge as we get older.
2. Economy.
3. Taxes, regulations.
4. Maintaining relationships and continuing to grow. Constantly staying competitive. Don't take clients for granted.
5. Hiring more qualified employees.
6. Getting owed money paid.
7. Sustaining business.
8. Trying to sustain business.
9. Finding enough qualified people to do work! Keeping up with regulations and technology that is needed to comply with regulations.
10. None known. Getting funding for different projects to sustain business.
11. Unknown future for business. Google earth is perceived as surveying. Stay ahead of the curve and not be complacent. Stay on top of changes in business. Keep personal service with clients.
12. Retaining employees keeping and training qualified employees. Not many people want to move to Yazoo city. Customers looking at cut backs. Will have to adjust to lower demand. Generalized business so that a weak market can be supplemented by stronger markets.

13. Work load too light.
14. Financial issues of increasing costs. Software goes up every year, insurance.
15. Making payroll.
16. Finding new clients and new work.
17. Clients are going to design-build projects. Not valuing the quality of good design. What is the cheapest that we can do this for. Doesn't give the opportunity to get client good design, have to work with contractor to keep bid low and get job. Lose ability to get with owner to discuss changes that might save money.
18. Work attitude more than work ethic. Keeping steady work. Job depends on market. Depends on government spending.
19. Steady work.
20. Politics.