The Thesis committee for Christopher Patrick Brissette

Certifies that this is the approved version of the following thesis:

Starting a Small

Engineering Consulting Firm

APPROVED BY

SUPERVISING COMMITTEE:

Supervisor: _____
Anthony Ambler

Co-Supervisor: _____
Robert McCann

Starting a Small
Engineering Consulting Firm

by

Christopher Patrick Brissette, (B.A.;B.S.)

Thesis

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Dedication

To my wife, kids, and dad, who always encouraged me to improve myself by first becoming a civil engineer to last year when I pursued a Master's degree, which has lead to me to start my own consulting civil engineering firm.

Starting a Small
Engineering Consulting Firm

by

Christopher Patrick Brissette, MSE
The University of Texas at Austin, 2010

SUPERVISOR: Anthony Ambler
CO-SUPERVISOR: Robert McCann

When starting an engineering consulting firm, there are many questions such as, "How do I start a business?", "How do I handle cash flow?", "How do I get clients?", and "How do I market?" among others that need to be answered. Since I am a sole proprietorship engineer, I will first start this paper by constructing a foundation. For a start-up, this foundation is how to get your business started. Then I will explain the business plan. This plan for a business is its structural frame that holds up the company. Finally, I will erect the facade of the business. Just like a building's façade, marketing strategies are the face of the business and some work well while others fail in their application. At the end, I hope to be able to give a clear understanding of what it takes to start your own engineering consulting firm.

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Chapter 1: Background Information

PERSONAL EXPERIENCE

For the last ten years, I have been working as a civil engineer focusing mainly on land development. This involves turning raw land into either a residential subdivision or a commercial development such as a church, school, or shopping center. I have worked for different firms in both the Hudson Valley area in New York and in the Houston area in Texas ranging from small to mid-size firms. Through all of this, I have learned that a person is happy and productive when that person loves their work. I have also discovered that I have a knack at viewing raw property and envisioning the finished project and this helps me in designing the grading and drainage. I know that I am good at what I do and many times, I have surpassed my client's expectations.

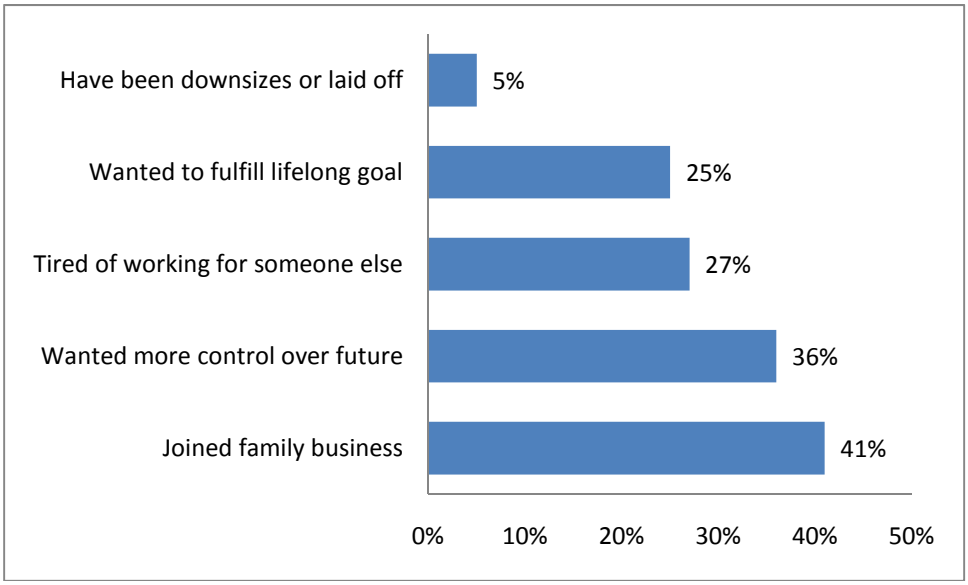
A few years ago, I had the opportunity to go into a partnership with another engineer. This firm failed because of several reasons. One was that neither of us had real business skills and we never did a business plan. I learned many lessons from this failure and have used these in my current venture to make it successful.

Between December 2007 and March 2009, more than five million jobs have been lost due to the recession. I am sad to say, I became part of this statistic in December 2008. With the current bleak job prospects, many unemployed are moving into self-employment. According to careerbuilder.com June 24, 2009 survey, one in four who have not found jobs are considering launching a business.

There are many other reasons for starting a business. Figure 1 is the results of a survey that asked business owner why they got into business. (Scarborogh & Zimmerer, 2003) For me, I fall in two of these categories. I of course fall in the five percent of

people laid off. However, I also fall in the thirty-six percent of people wanting to control their own future. This was the reason that I went into my first failed venture.

Figure 1: Reasons Individuals Went into Business.



Source: (Scarborogh & Zimmerer, 2003)

With no one hiring, I received a call unexpectedly from a pastor that I had helped a few years ago. He had a parishioner who needed some engineering help with a new site that they had purchased. After thinking about and doing research for this thesis, I launched KT Engineering on May 1, 2009. It has been over a year and I consider my business a success in that I generate enough money to live on. With the current economy in a slow recovery, I am hopeful that in 2011 my firm will have a big year.

WHAT IS A CONSULTANT

Before we get going, I must first explain what a consultant is and what they do. According to Biech, a consultant is "someone who provides unique assistance or advice

to someone else, usually known as the client." An engineer fits this definition and he typically helps the client identify their problem and provides a solution to this problem. There are many different areas in engineering, but since I am a civil engineer, I will be focusing on this discipline.

There are many benefits of being a consultant over other types of businesses. These can range from working from your home to having the freedom to choose what you want to work on. Another advantage is that since you are using your brain, there is minimal capital to set up your business. One of the benefits of owning your own business has been choosing the clients to do elicit your services. For many engineers, starting a business has appealed to their internal makeup by challenging their skills, abilities, and determination. (Scarborogh & Zimmerer, 2003) Another benefit stems from assuming all the risk in the venture by having the opportunity to unlimited profits. This means that your salary is not limited to a typical employee-employer pay scale.

A consultant must have the ability to communicate. Only through communication will you gain your client's confidence and of course his money. Often, a consultant has to deal with a client who is not aware of the complexity of their problem and it is up to the consultant to explain the need to utilize your talents. My client had asked me to get him a preliminary cost estimate for his proposed commercial development. Once I delivered this estimate, the first thing out of his mouth was, "Ouch! This is more than I thought. However, I am impressed how detailed it is." I had to explain to the client the meaning behind the numbers and that most items were due to municipality regulations, but by phased some into the next round of construction, they can save some money. By communicating to your client, your will become more valuable to him and often this will result in a lifelong client relationship.

Your objective as a consultant must perform your work at a high level with minimum mistakes. Let me be the first state that you must take risks and by doing so, you will have mistakes. You must minimize these mistakes. Remember, what you want is for your client to spread your name around in a positive light. Several years ago, I was hired to help booster a firm's site development department. While I was trying to re-establish some old clients, a few big clients told me about how the previous project manager had poorly handled their projects. Even though these same clients's knew my professional reputation, they told me that could not consider my firm in their future projects because of this bad reputation of the firm. Always remember a good or bad name will carry you far in obtaining work or hinder you from getting work.

Chapter 2: Getting Your Business Started

In the United States, there are about 27 million small businesses and about 75 percent of these are sole proprietorship (having no paid employees). Small businesses comprise about 52 percent of all American workers. According to the Small Business Administration (SBA), there are 19.6 million working for companies employing fewer than 20 workers. For engineering services, SBA has set a small business definition as having an annual receipt of $4.5 million regardless of the firm's employee size. The US Census Bureau reported in 2007 for the Houston Metro Area, there were about 58 thousand self-employed workers in the engineering services area and the yearly receipts for all the companies were $3,058,122.

To become successful let me stress three things, education, education, and education. By obtaining a master's degree in business or management, one can gain the educational needs to operate a company. I have taken this course. Read books on the subject at your local library or get them at the bookstore. Many web sites both governmental and private have vast information about starting a business. Most of the information in this thesis can apply to any business, but I am focusing on a civil engineering company, which I have started.

NAME YOUR COMPANY

Let us start with one of the most important decisions of your company. This is your company's name. Let me first state that if you form a corporation or a limited liability partnership, you may have certain initials after your name. More information about the required name is in Figure 2. In choosing a name, you should be straightforward enough to let prospective clients know what services you provide. You might want to use a geographic location such as your town, street, or other known

surrounding feature. I happen to live in Katy, Texas, so I shortened Katy to "KT" and added "Engineering" to emphasize what kind of services I provide.

You might also want to do some research in the yellow pages to ensure that no other company already has that name. You can also call your state's Secretary of the State Department for any company that has filed with the name that you want to use. Another quick check of your company's name is to visit a web-hosting site. You will want to have a domain name with your company name in it. This is an easy check without committing any money yet. Remember, a web page with easy to remember name is a great marketing tool. My company's web page is www.ktengineering-civil.com. There were a few other KT Engineering firms, so I added the "-civil" to further define my services.

REGISTER YOUR COMPANY

Once you have a name, this name must be registered. If you plan to form a corporation, then you will have to fill with your state's Secretary of the State Department. If you plan to form a sole proprietorship or a partnership, than you will have to file your company's name as a DBA (Doing Business As) at the county level. You will need this DBA registration in order to open your business checking account. I was able to register my company's name for ten years at a minimal cost. As an engineering firm, I also had to file with the Texas Board of Professional Engineers. The yearly fee depended on the type of firm and the number of other licensed professional engineers you are employing.

Another important item is obtaining an employer id number (EIN) from the IRS. Please note that only a sole proprietor can file their taxes using their social security number (SSN). In addition, if a sole proprietor changes their business type or hires

employees, they will need an EIN. I obtained an EIN for my company mainly because it was easy and that I do plan to hire employees in the future.

The next step you may want to do is develop a company logo, business cards, and letterhead. Your logo should be simple, eye catching, and go with your name. With all the technology today, you can design your own business card and print them in small batches with little upfront cost. With your business design, one can also easily make their own letterhead within a word processor program. These can be printed on quality paper and be printed only on an as needed basses to save on money.

TYPES OF BUSINESS ENTITIES

The second important decision you will make is what type of business structure you want your company to follow. There are some specific items to consider and some may want to obtain a lawyer or accountant to help with this decision. You need to think about your company's liability needs, financial requirements, and size. Outlined below in Figure 2, is a comparison of business entities. Other factors to consider include the company's scope of operations (local, statewide, national, or international) and the type of business you want to start. Some types work best under a certain business structure.

Sole Proprietorship

Sole proprietorship is a company owned and managed by one person. This is the easiest to form and is the most typical form of business structure. For this reason, I formed my company as a sole proprietorship. According to SBA, 90 percent of all home based businesses are sole proprietorships. From a legal and tax point of view however, there is no difference between you and your business. This is why you may file your business taxes using your SSN instead of an EIN.

Figure 2: Comparison of Basic Business Entities.

Entity	Owner Liability	Participation in Management	Ownership	Formation Requirements	Name
Sole Proprietor	No Limits.	No restrictions.	One.	None. File assumed name if doing business in another state or under different name.	No special requirements.
General Partnership	No Limits.	No restrictions.	At least two partners.	Partnership agreement (may be oral) and file assumed name certificate.	No special requirements.
Limited Partnership	No Limits for general partners. Limited for limited partners.	Restrictions for limited partners.	At least one general partner and one limited partner.	Partnership agreement (may be oral) and file certificate with Secretary of State.	Must have "Limited Partnership," "Ltd.," "Limited," or "L.P." in titile.
Limited Liabilty Company	All members have limited liability for company debts.	No restrictions. ("Managing" members make decisions.)	One or more members. (Some states may require at least two members.)	File Articles of Organization and adopt regulations.	Must have "Limited Liabilty Company," "LLC," or "LC" in title. ("Limited" and "Company" may be abbreviated.)
S Corporation	Limited Liability for all shareholders.	No restrictions. (Shareholders elect directors to make decisions. Directors appoint officers for daily decisions.)	One to seventy-five shareholders.	File Articles of Incorporation, adopt bylaws, and file "S" election tax form with IRS.	Must have "Corporation," "Incorporated," "Company," or abbreviation of one of these in title.
C Corporation	Limited Liability for all shareholders.	No restrictions. (Shareholders elect directors to make decisions. Directors appoint officers for daily decisions.)	One or more shareholders.	File Articles of Incorporation and adopt bylaws.	Must have some form of "Corporation," "Incorporated," "Company," or abbreviation of one of these in title.

Source: (Biech, 2009)

Since you are the sole owner, you make all the decisions and therefore make all the profit or losses. Once you file your DBA, there are no other government regulations, which need to filing. The company does not pay taxes, you file taxes along with you personal taxes at the end of the year. This is also the simplest to dissolve if you so desire.

A sole proprietorship is the least expensive form of ownership to set up. In many instances, one can set up and start operating the business in the same day. A sole proprietorship has total control over day-to-day operations of the business. Many of these qualities are what I find attractive to this form of business entity.

Like all things in life, there are some drawbacks. Since you make all the decisions, you carry all the risks. You have unlimited liability and are legally responsible for all business debt. This means that your personal assets such as your home equity, savings, etc. are at risk. This is why you want the right amount of liability insurance. Also capital is more difficult to obtain. My bank told me that I would need to be in business for 12 months before they would even consider lending any money. In addition, since there is no separation between you and your business, the lender uses your personal credit score. Something also to consider is that your company is dependent on you to operate it. If you die, your business will cease to exist as a legal entity.

One reason that a person fails in the business venture is that they lack the necessary skills to operate a business. Avoidance is a typical human trait that one uses when they lack either the knowledge or experience to handle a situation. By avoiding a business problem, a sole proprietor may cause great harm to his business.

Some of the IRS tax forms that you may use are Form 1040 (Individual Income Tax Form), Schedule C (Profit or Losses from business), Schedule SE (Self-Employment Tax), Form 1040-ES (Estimated Tax for Individuals), Form 4562 (Depreciation and Amortization), and Form 8829 (Expenses for Business Use of your Home). A good tax preparation program will help with all the necessary forms when it comes time to file your taxes. I will go in further detail about taxes in a later section.

Partnership

A partnership is an association of two or more people called co-owners. Let me state that it is important to have a partner who has common goals, desires and has complementary skills to yours. I had once formed a partnership and my partner and I had different ideas of the direction of the company. Let us just say that this was my first

failed attempt at ownership. There are two types of partners, general partners who are active in the daily business and limited partners who are taken on to raise capital and do not participate in the daily business.

For a partnership to succeed, they will need to obtain a determination of each individual's strengths and weakness. With this in hand, business roles such as marketing, management, engineering design, etc. are paired to the person that best suits that role. My past partner and I failed to determine this pairing. Looking back on the failed venture, both lacked several skills need to operate a successful business.

A partnership is easy to establish. As with the sole proprietorship, simply file a DBA and obtain any other business license needed for your type of business and your company is established. For a partnership is important to enter into a partnership agreement. I would suggest getting a lawyer involved to help with this agreement. In my partnership, we had only a verbal agreement and this did not work out well from my point of view. A partnership has an advantage over a sole proprietor in the ability to share the workload and therefore become more profitable. Partnerships will also be able to access money because more than one individual contributes funding towards the business operations.

A partnership has some disadvantages as well. Partners are jointly and individually liable for the action of the other partners. Disagreements can often occur which are base solely on one of the other's bad decision. Dissolution of a partnership can be difficult but a formal exit plan should be included in the partnership agreement. Partnerships may have a limited life caused by a withdrawal or death of a partner.

As with sole proprietorships, each partner's individual tax return shows the business taxes. The one difference is that partners share the profits or losses of their

business. Some of the IRS tax forms that you may use are Form 1065 (Partnership Return of Income), Form 1065 K-1 (Partner's Share of Income, Credit, Deductions), Form 1040 (Individual Income Tax Form), Schedule E (Supplemental Income and Losses), Schedule SE (Self-Employment Tax), and Form 1040-ES (Estimated Tax for Individuals).

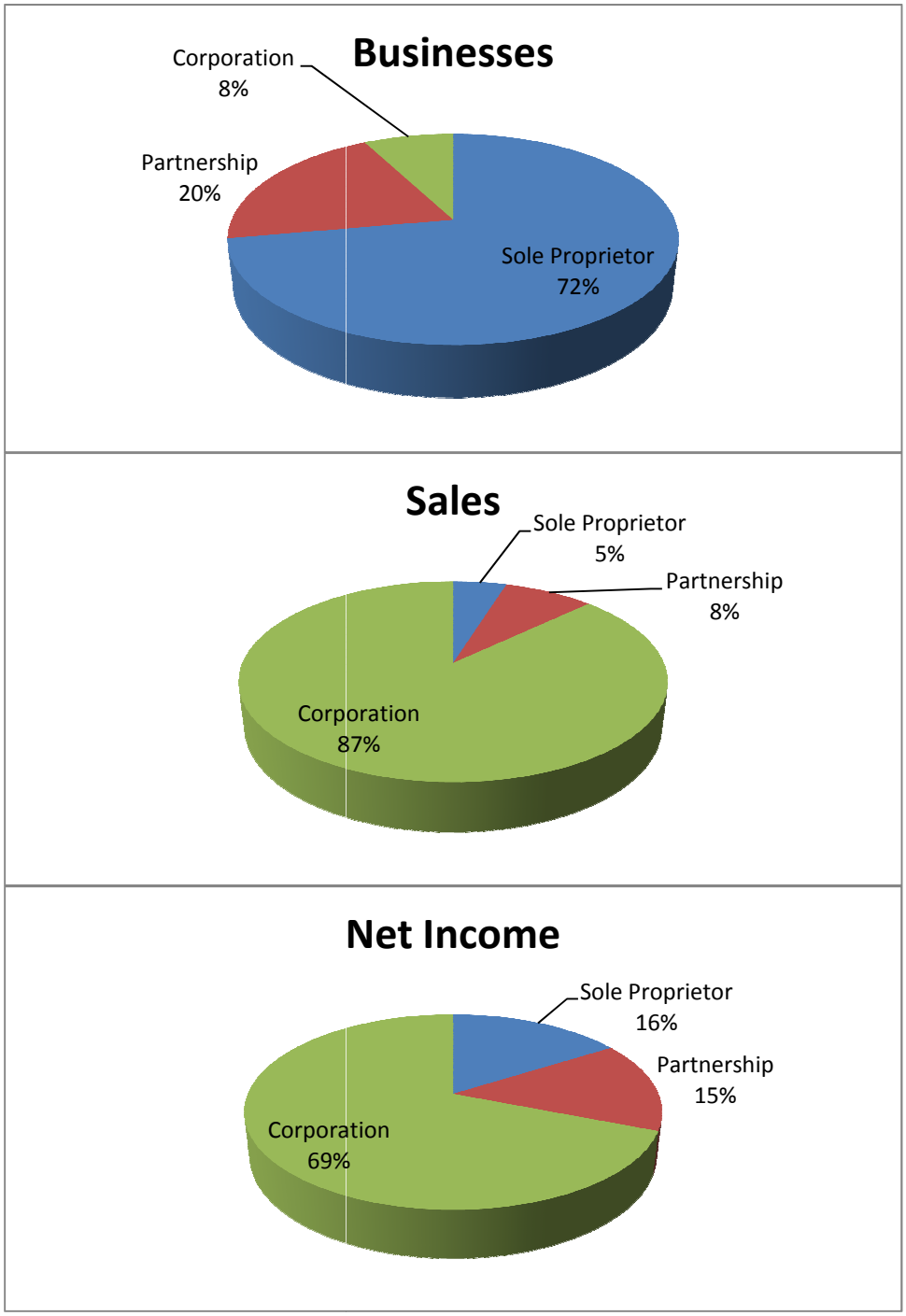
Corporation

According to the IRS, corporations make up a little more than 20 percent of the three manor business entities but generate 87 percent of the sales and 69 percent of the net income. Figure 3 shows the breakdown of the three major business entities. A Corporation is a distinct legal entity, separate from the individuals who own it. The state where the corporate headquarters is located will be the state where the corporation will charter the firm. The state's Secretary of the State Department grants this charter. A Corporation can enter into contractual agreements, legally be sued, and is taxed separately. The owners of a corporation are its shareholders and these shareholders elect a board of directors to oversee the major policies and decisions. A corporation has a life of its own and does not dissolve when ownership changes.

Due to the complexity of a corporation, a lawyer and/or an accountant must be involved in drafting the firm's articles of incorporation. A lawyer drafts the firm's bylaws, which are the governing rules of the corporation.

Corporations are difficult and expensive to form and maintain. Corporations must also conform to extensive governmental regulations and have massive amount of paperwork to comply with those regulations. Corporations also have federal tax rate ranging from 15 percent to 35 percent depending on the corporation's level of

Figure 3: Forms of US Business (1997).



Source: (Scarborogh & Zimmerer, 2003)

taxable income. Dividends paid to shareholders are not deductible from business income and thus the government applies the tax rate to dividends twice.

There are some advantages to forming a corporation. Shareholders have limited liability for the corporation's debts or judgments against the corporation. A corporation can greatly increase its capital by the sale of stock. Shareholders are accountable for their investment in stock of the company.

S Corporation

The "S" stands for small business corporation. Some corporations may elect not to be subject to income tax. If a corporation qualifies and becomes an s corporation, the tax burden is pass-through to the shareholder. The shareholder's earnings will pass directly to their personal tax return. Some of the qualifications are the company must be a domestic corporation, have only one class of stock, and have no more than 75 shareholders. Formation of an s corporation is not for all firms and if entered without careful planning, it can result in more taxes.

Limited Liability Company (LLC)

The LLC is a relatively new type of hybrid business structure. This structure combines the best parts of general partnerships and corporations. LLCs are popular because owners have limited personal liability for the debts and actions of the LLC. Owners of a LLC, called members can be individuals, corporations, other LLCs and foreign entities. In addition, most states allow single member LLCs. Some types of businesses cannot become LLCs and this depends on your state's regulations. To form a LLC, a company submits both Articles of Organization and Operating Agreement with the Secretary of State. For tax purposes, a LLC follows the rules governing a partnership

unless more than two corporations are members. As a start up, forming a LLC may be expensive. Many companies start out as a sole proprietorship and then convert to a LLC.

SETTING UP YOUR HOME OFFICE

About 20 percent of all new small businesses operate out of their home. Before you start setting up your home office, first check with your local zoning ordinances and home association regulations. Some types of businesses are restricted from home use. Consulting engineering is a perfect home business. With a home business, you can have low start up cost. You want to have a separate space to set up your office. It should also have a door to separate your work from your home and it to provide privacy for business calls.

To lower cost, use existing furniture. You must decide how much you can make do with for the beginning. I used two old desks that I my children no longer used. I plan to buy a more suitable office desk once my business income allows the expense. Your office should be functional and you should have space for shelf units, file cabinets, and storage. A big expense for my company is a flat file for record drawings. Check used office furniture stores for some of your furniture. The most important piece of furniture is a good comfortable chair.

Your technical needs are the next items that you will want to purchase. With technology and today's bundle packages, you can get a dedicated phone line, a fax line, and the internet for your office either through your home phone company or cable provider. I went through my cable provider and received additional products such as free web site and voice mail. With voice mail, I did not have to get an answering machine. You will need a computer, printer, fax machine, and telephone. I also bought a multifunction printer/fax machine/scanner. This has provided me with quality office

production at minimal cost. For my business, I shopped around until I had just what I was looking for, one that was able to use large 11 x 17 format. For a computer, I would suggest that you call the computer company directly instead of just buying any computer. You want your computer to be able to handle your business when you are just starting out and your business in the future.

The last items that you will need for your office are office supplies. All of those pens, paperclips, paper, and pencils that you took for granted at your last job you will need. The best way to get all of the items that you will need is to stop by an office supply store. Once you are there, browse all the isles and choose the items for your office needs. As I have stated earlier, you can save money on business cards and letterhead by designing these items yourself and printing them in small batches or as you need them.

GETTING A BUSINESS CHECKING ACCOUNT

As a sole proprietor, there is no difference between you and your company for tax purposes. However, the IRS does not look kindly when you mix your personal and business finances. Keep in mind to start with good bookkeeping, because everything purchased for your business is an investment. So, as soon as you file your DBA, go talk to your banker. I would suggest starting with your current bank. You will need to have a good relationship with the bank in order to obtain financing for your company.

GETTING INSURANCE

You will need insurance for your company. Shop around and obtain quotes from at least three different companies. I would recommend that you call your current home insurance carrier first. There may be some provision in your current homeowner's policy about a home business. For KT Engineering, my current home insurance company was

the highest, so I went with another carrier. It is important that you spend time with the agent and explain what your company is currently and where you want to go in the future. You will need to have a policy tailored your company's needs. There are many different types of insurance that you might want to consider, it will ultimately depend on your situation. There is life, health, general liability, product liability, worker's compensation, business interruption, and malpractice insurance. For a consulting engineering company, you will need general liability and professional liability insurance to start your business. Some of the other types of insurance your company will need to add as you hire employees and grow your business.

General Liability

This is your liability insurance to cover legal hassles due to claims of negligence. This kind of insurance helps protect your company against payment as the result of bodily injury or property damage, medical expenses, or the cost of defending lawsuits. My company's policy covers property damage as well as the business liability up to $1,000,000. This premium is relatively inexpensive.

Professional Liability

In some parts of the country, professional liability insurance is interchangeable with errors and omissions insurance. For a consulting engineering, professional liability insurance is your most critical coverage. Professional liability insurance protects you and your business from potentially catastrophic litigation caused by charges of professional negligence or failure to perform your professional duties. Because of this importance to your company, the premium is typically about ten times the cost of general liability. Professional liability operates on a "claims-made" basis. This means the policy in effect

at the time a claim is made is the policy that provides the coverage. It is important as an owner, to remember this since a claim on a project may not take place right away but years later. Your policy may be different from the one you had in place at the start of that project or you may have different carrier.

GETTING A LAWYER & AN ACCOUNTANT

You may want to consult a lawyer and/or an accountant early on your decision to start a consulting engineering company. A lawyer can help with structuring your client contracts. A lawyer may also help in collecting past due invoices. Lawyers bill their services either as a flat fee or as an hourly fee basis. You want to select a law firm who specializes in your company's field of expertise. An Accountant can especially help your company comply with the tax code and pay your company's taxes. I would suggest talking to a friend or former associate who is a lawyer or an accountant. Their advice can be free and can be valuable to your company in the beginning.

KEYS TO SUCCESS

Every year in the United States millions of new small businesses start. These owners are passionate and driven about their business. However, the success rate for a new small business is low. Only about, a half of the businesses survive five years or more. Over a three-year period in the Houston metro area, the failure rate for an engineering company is only about 14 percent. This is good news for my company, but I am cautiously moving forward. Most start up owners fail because they fail to plan. (Barreto, 2007) Benjamin Franklin stated, "By failing to prepare, you are preparing to fail." To become successful in business, you must first write a business plan. Without this plan, you will not know what direction your company is travelling and what you see

your company's future will become. This is what happened to me when I first started a company a few years back. I had failed to plan and I did not have the business knowledge necessary to operate an engineering company. Therefore, as an owner, you must educate yourself to give you the necessary tools to operate your business and to keep up with the latest news and regulations, which may affect your company. My graduate studies have become a valuable investment for both my company and myself. In order to keep my company on the right track, will involve constant reading of both current business trends and industry outlooks.

Another successful business trait is good communication, both verbal and written. You need to be effective and professional when communicating with your clients and potential clients. Communication also means becoming a good listener. You always want to listen to your client and remember your client may not be aware of the complexity their project. You are the professional who needs to explain this complexity but also needs to provide the client what they ask for.

To become successful in a home business, a person is required to show self-disciplined with his time management and not allow distractions interfere with your work. You need to dress for work, set fixed hours and keep an environment of professionalism in your office. You want to keep good records and be organized, which will help when filing taxes or looking for your client's project. Your office must be a dedicated space in your home. You must ensure that you have the technological support and furnishings without going overboard. Set up a professional network to avoid isolation and maintain a supportive family network.

Chapter 3: Business Plan

The business plan is the most important document that you will first put together as a company. It is the structural member of your company, which precisely defines the company and identifies its goal. The plan can become a useful tool in obtaining financing from investors and/or lenders. You will be able to anticipate and solve many problems before your business starts once you prepare a business plan. Writing a good business plan takes a lot of time, patience, and thought. It will take many hours of research, writing and editing, but you will have a better handle on your company's purpose and direction. A company yearly revises this document based on the company's current direction. Components of a business plan include three basic goals, company description, marketing plan, and pro forma financial statements. Figure 4 provides a good outline what is included in a business plan. I have also included my company's business plan in Appendix A.

Figure 4: Components of a Business Plan.

Business Plan

- Cover Sheet
- Executive Summary
- Table of Contents
- Business description
- Company Services
- Marketing Analysis
- Financial Analysis
- Supporting Documents

The cover sheet should contain the company name, address, and telephone number. It should also state who prepared it and when it was prepared or revised. You may also see all owners listed on the cover sheet.

EXECUTIVE SUMMARY

This part of the plan should be clear concise summary and should be able to stand-alone. Some basic topics that discussed are the type of business, services provided, form of ownership, the company's principles, how much money is required, and the money utilization. The executive summary is the first section in the plan but the last written section. This section also includes the company's objectives and mission statement.

MISSION STATEMENT

A mission statement or statement of purpose is the starting point for all business plans. Some items to think about are what business you will be in, what your business' purpose is, what services you are providing, and who will be your clients. A mission statement should be concise with fifty words or less and is usually one or two sentences long. To be effective, a mission statement must become a natural part of an organization. It's employees must be aware of this and strive to make daily company decisions based on their mission statement. My company's mission statement is "Design innovative and practical solutions to meet the needs of our clients through expert service."

COMPANY DESCRIPTION

This section should include the company's structure, ownership, and other basic information such as location and information on other branch sites. Even though this section seems obvious to the owner, remember that the target audience for this plan is

investors and/or lenders. With this in mind, include a brief description of the business industry that your company is in to help the lenders know what your company does. Also, include the current economic health of the company and the projected growth in your company and industry.

COMPANY SERVICES

Through your research, you would want to complete list of your company's capabilities. You will want to detail the services, you will be providing. Part of your market research must involve pricing of these services. Your prices will ultimately be limited to what your client is willing to pay. While researching your competitors, their prices for these services are important for you to become competitive within the market place. Specifically explain any unique advantage your company has over your competitors and explain why a client will choose your firm over them.

In this current economic downturn, it is essential in your research on your competitors to expose their mistakes and vulnerabilities. If you can identify a way for your company to capitalize on these mistakes, in the long term your company will benefit. By finding unique market niches, a company can also potion itself to thrive in a downturn economy and grow in the subsequent up turn.

MARKET ANALYSIS

Doing market research is very important and understanding this market and finding opportunities in the marketplace is the only way for your company to grow and survive. A market as a whole is too broad in scope for any but the largest firms. The best approach is to break your market into manageable niches. Also, consider your own experiences and expertise. For my company, I have focused on land development. This

is a niche were I have a large amount of knowledge and expertise. Use the internet for your research since there is vast free information out there. In addition, there are companies who do studies for your specific market in your company's area. This however does cost money, but it is well worth the cost.

If you have expertise in your field, then you have knowledge of your targeted clients. If you do not, then through your research on the market, you will be able to identify these targeted clients and the percentage of the market they are in. For my business, my targeted clients are architects, owners, and developers. In land development, architects are the majority of clients because most owners and developers bring an architect early on with their development project. Architects tend to outsource the civil engineering services.

Now that you know your target clients, you will need to know your competitors. This is an integral part of your company's market. A compete and objective assessment of these competitors is essential. You also need to pick competitors similar to your company in size and abilities. It does not do you any good to use the bigger firms, which have more capabilities than your business. It may be useful to speak discreetly with your contacts in the marketplace about your competitors.

Knowing the business environment is important for your company. You want to get the general or national economic outlook for you market and of course the local area. The local market's health and vitality will most significantly affect your client's needs, wants, and their ability to afford them. This will in turn affect your company.

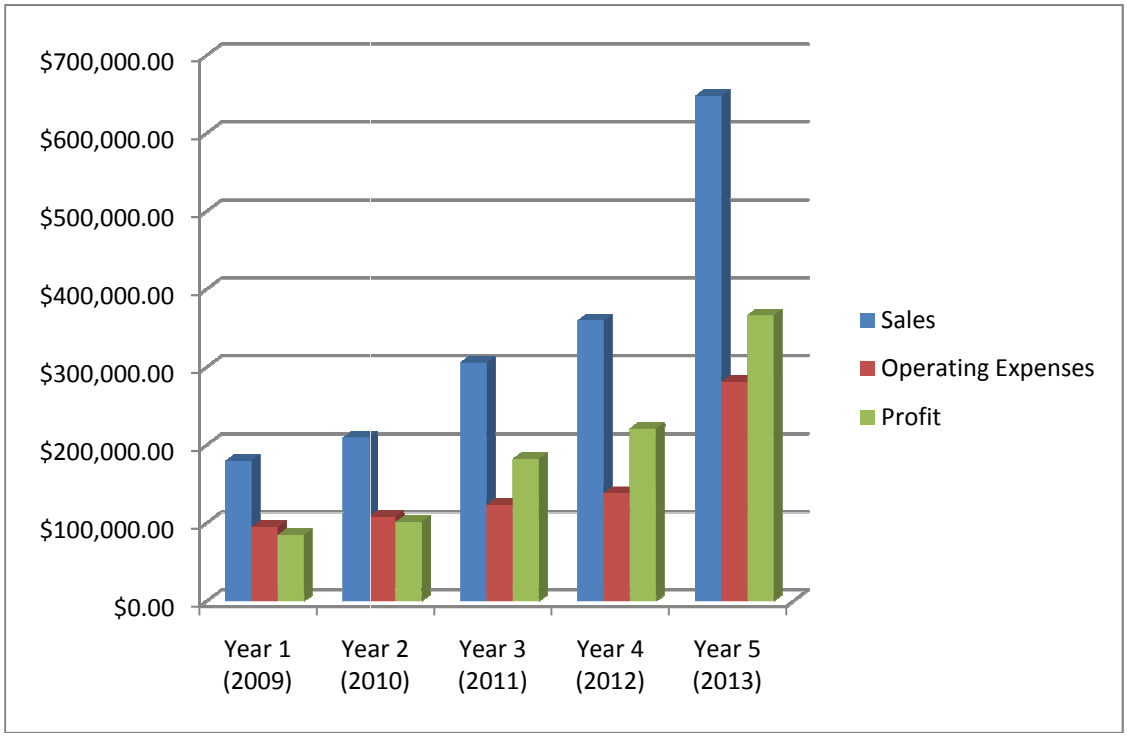
FINANCIAL ANALYSIS

The financial analysis is where the plan gets more technical and some business will need some knowledge to complete this section of the business plan. This part of the

plan will help you project your company's revenue, financial state, and future financial goals.

The first step is to forecast your company's sales for the first year and three to five years out. This forecast will require you have your pricing set, you figure a basic project, how long the task will take, and how many you can complete. My company's sales, expenses, and profits five year forecast is shown in Figure 5.

Figure 5: KT Engineering five year forecast.



START-UP COST

Start-up expenses will include the cost of obtaining necessary business licenses, operating expenses, and any expenses needed to get the business up and running. Included in this cost do not forget your salary and taxes for the first year. A fast and an accurate estimate is called the three rule. This rule takes your desired yearly salary and

multiplies it by three to obtain the total start up expenses. If you have a home business, this can be cut down as low as twice your salary, but always be conservative on your estimate and stick to the original rule. For the first year, I budgeted $36,000 as a base salary. By using the above rule, I needed at least $72,000 to start my business since I was using a home office. Luckily, I had a project worth $45,000 and a family loan of $18,000 to start my business.

Remember that financing is difficult to obtain when you just start out. Your most common financing source would be your personal savings and home-equity. You may be able to use family members as a financing source as I did. However, be cautious about going to family members. You must always remind them that there is a good chance that you will lose all of their money. Figure 6 shows the start-up cost for my company. I was fortunate that I had a client who paid a small percent up front as a down payment for the engineering services. I also was able to offset some of the costs by utilizing an empty room for my office and using furniture that I already had. I was also able to pay the expensive professional liability insurance on a quarterly basis.

Figure 6: KT Engineering Start-up Cost.

Advertising	$500.00	Professional Organizations	$200.00
Business State Licenses	$50.00	Rent	$450.00
Computer Equipment	$2,400.00	Reproduction	$400.00
Meals and entertainment	$300.00	Three Month of Pay	$9,000.00
Office Furniture	$1,200.00	Truck Maintenance/gas	$300.00
Office Supplies	$800.00	Web Development	$165.00
Professional Liability Insurance	$5,580.00	**Total Start Up Expense**	**$10,830.00**

Chapter 4: Cash Management

Every aspect of the business can be broken down to one important item, money. The company needs to win the proposal, which generates money. The company also needs to expand its client base, which generates proposals and hopefully money. Without a firm grasp on this topic, one can quickly be out of business.

Assess your financial fitness. It may take months to bring a business to the point where it is earning a profit or breaking even. However, a consulting home business' earnings are only limited to your ability to attract and service clients. As a Sole Proprietorship, you do not collect a paycheck. Instead, you draw on the company's profits.

CLIENT RELATIONSHIP

Good client relationship drives a consulting business. For me, I strive to make good relationships. A client's word of mouth can either get you more clients or dry up clients based on one bad relationship. Years ago when I worked retail, my manager told me, "The customer is always right." However, an engineer, a tactful explanation may be needed to change the client's perspective of their problem in order to ensure that the solution meets both the client's desires and governmental regulations.

A good consultant-client relationship consists of respect, communication, and the ability to resolve differences. A consultant should be able to express oneself to their client and act with the client's best interest. One should be able to listen to their client, hear the client's needs. One should also make the client feel that they are as important to you as you are to them. I recently had a meeting with a client whom felt put off by one engineer who did not return his phone call and with another engineer who did not listen to his wants and needs for the required engineering solution. Not only did I listen to him,

but also I explained the required solution through simple sketches. Afterward we walked the property and I measured out the area that I felt would not only be least expensive during construction, but also meet the City's requirements. By listening to my client, I won him over and I know he will tell his friends and co-workers about me if they ever need any engineering services. A consultant always strives for this is the type of relationship.

Another issue with your client relationship is your professional image. The phrase, "Don't judge a book by its cover", does not apply here. Your first impression is very important to winning over a client. In fact, if I told you to think of an engineer, the image would probably be one that has slacks, a white shirt, a tie, and probably a pocket protector with lots of pens and pencils. Your client is no different. They expect a professional engineer to be dressed at least with a tie. One must always dress at least one level above the client and if in doubt always wear a jacket and a tie. This projects a positive professional image.

As a civil engineer, sometimes we meet the client at the project site. In these instances, use your judgment. If you are going to traverse open raw land, then wear blue jeans and boots. Always dress professionally and remember that the client wants a professional handling their problems.

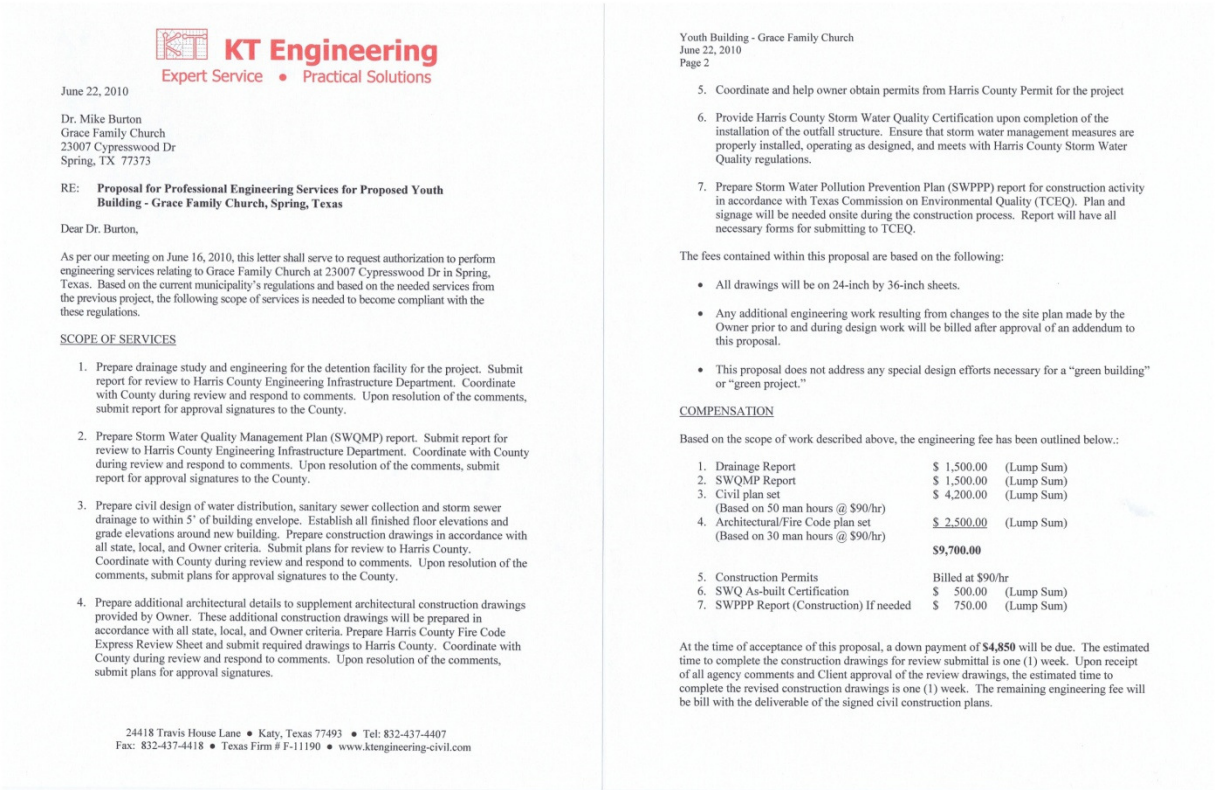
A consultant must avoid some pitfalls if he wants to maintain a good professional relationship with his client. Do not complain either to the client or in front of them. Never knock your completion or another client in front of a client. When presenting technical information, never bluff. A client will always remember this and spread the word to others. Remember if you keep a positive professional relationship with your client, then you may gain future clients. Clients do talk to other potential clients and this

will gain you either a positive or a negative reputation. Always remember that it is easier to maintain a good image than trying to repair a negative one.

PROPOSALS

Proposals are the lifeblood of a consulting firm. A well-written one can gain a project/client and a poorly written one will only give you problems. A client will spend only a few minutes reviewing your proposal, so it is important that you focus on the client's needs and concerns by providing him with how your company will solve their particular problem. Figure 7 shows an example of a proposal that I sent a client. This has all the elements needed for a good proposal.

Figure 7: Example of a Proposal.



KT Engineering
Expert Service • Practical Solutions

June 22, 2010

Dr. Mike Burton
Grace Family Church
23007 Cypresswood Dr
Spring, TX 77373

RE: **Proposal for Professional Engineering Services for Proposed Youth Building - Grace Family Church, Spring, Texas**

Dear Dr. Burton,

As per our meeting on June 16, 2010, this letter shall serve to request authorization to perform engineering services relating to Grace Family Church at 23007 Cypresswood Dr in Spring, Texas. Based on the current municipality's regulations and based on the needed services from the previous project, the following scope of services is needed to become compliant with the these regulations.

SCOPE OF SERVICES

1. Prepare drainage study and engineering for the detention facility for the project. Submit report for review to Harris County Engineering Infrastructure Department. Coordinate with County during review and respond to comments. Upon resolution of the comments, submit report for approval signatures to the County.
2. Prepare Storm Water Quality Management Plan (SWQMP) report. Submit report for review to Harris County Engineering Infrastructure Department. Coordinate with County during review and respond to comments. Upon resolution of the comments, submit report for approval signatures to the County.
3. Prepare civil design of water distribution, sanitary sewer collection and storm sewer drainage to within 5' of building envelope. Establish all finished floor elevations and grade elevations around new building. Prepare construction drawings in accordance with all state, local, and Owner criteria. Submit plans for review to Harris County. Coordinate with County during review and respond to comments. Upon resolution of the comments, submit plans for approval signatures to the County.
4. Prepare additional architectural details to supplement architectural construction drawings provided by Owner. These additional construction drawings will be prepared in accordance with all state, local, and Owner criteria. Prepare Harris County Fire Code Express Review Sheet and submit required drawings to Harris County. Coordinate with County during review and respond to comments. Upon resolution of the comments, submit plans for approval signatures.

24418 Travis House Lane • Katy, Texas 77493 • Tel: 832-437-4407
Fax: 832-437-4418 • Texas Firm # F-11190 • www.ktengineering-civil.com

Youth Building - Grace Family Church
June 22, 2010
Page 2

5. Coordinate and help owner obtain permits from Harris County Permit for the project
6. Provide Harris County Storm Water Quality Certification upon completion of the installation of the outfall structure. Ensure that storm water management measures are properly installed, operating as designed, and meets with Harris County Storm Water Quality regulations.
7. Prepare Storm Water Pollution Prevention Plan (SWPPP) report for construction activity in accordance with Texas Commission on Environmental Quality (TCEQ). Plan and signage will be needed onsite during the construction process. Report will have all necessary forms for submitting to TCEQ.

The fees contained within this proposal are based on the following:

- All drawings will be on 24-inch by 36-inch sheets.
- Any additional engineering work resulting from changes to the site plan made by the Owner prior to and during design work will be billed after approval of an addendum to this proposal.
- This proposal does not address any special design efforts necessary for a "green building" or "green project."

COMPENSATION

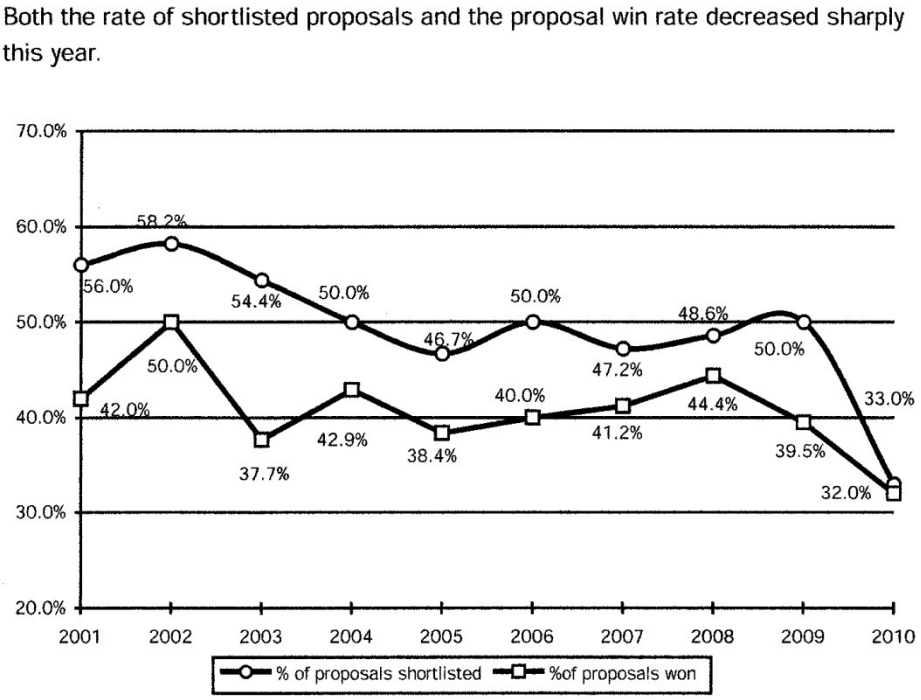
Based on the scope of work described above, the engineering fee has been outlined below.:

1.	Drainage Report	$ 1,500.00	(Lump Sum)
2.	SWQMP Report	$ 1,500.00	(Lump Sum)
3.	Civil plan set (Based on 50 man hours @ $90/hr)	$ 4,200.00	(Lump Sum)
4.	Architectural/Fire Code plan set (Based on 30 man hours @ $90/hr)	$ 2,500.00	(Lump Sum)
		$9,700.00	
5.	Construction Permits	Billed at $90/hr	
6.	SWQ As-built Certification	$ 500.00	(Lump Sum)
7.	SWPPP Report (Construction) If needed	$ 750.00	(Lump Sum)

At the time of acceptance of this proposal, a down payment of **$4,850** will be due. The estimated time to complete the construction drawings for review submittal is one (1) week. Upon receipt of all agency comments and Client approval of the review drawings, the estimated time to complete the revised construction drawings is one (1) week. The remaining engineering fee will be bill with the deliverable of the signed civil construction plans.

A civil engineering writes proposals in letterform on company letterhead. It must be addressed to the person with has the authority to make decisions. Typically, this is either the person whom you had a meeting with or a phone conversation about the project. Figure 8 shows the current trend of a firm's proposal success. The most important section is the scope of services. This section defines the exact scope of the project and deficient detail of engineering services always causes problems as the project progresses. I break up my scope of services into billable tasks. For example, I will have one section explaining the construction drawings of what is proposed and which municipality will approve them. If an engineering report is required, then the task it is written up and detailed as another line item.

Figure 8: Trend: Hit Rates.



Source: (ZweigWhite, 2010)

The next section that I include describes what is in the proposal and what is not in the proposal. Here I describe the deliverables and what format they will be to my client. In addition, this section states any important information that is needed for the design, which will be provided by the client. Most important, I describe what is not in the proposal. If additional engineering services are needed, both parties must agree on the addendum before any additional work is performed.

The last section is the compensation section. This is very important because the price, if too high may cause you to lose the project and if too low, you will be doing some work free. The challenge here is to know your audience (client) and properly guess their bottom line. I did a proposal earlier in the year for a large corporation. I thought that I was fair in my pricing, but when it took them only a few seconds to agree to the proposal, I felt that I had just left money on the table that I would not be able to get and that I should have increased my price accordantly. On the other hand, I also sent a proposal to a small church that had a few other proposals from different engineering firms. The pastor wanted to use me, but asked if I could lower my price in order to get the project.

So pricing is important. In civil engineering, there are two main types of pricing: lump sum (fixed price), time, and materials. The lump sum is the riskiest pricing type but this also potentially will yield the most profit. I typically use lump sum in all of my proposals since the particular service is limited in scope and on a smaller timeframe. A great advantage with lump sum is that at the halfway point in the task, you can bill as fifty percent complete so you can receive half payment. This also is good for the client to be able to track the progress of the project.

The second type is time and materials. There are certain tasks, which this method would be beneficial to both you and your client. I typically use this method in the

construction management phase of a project. There is always a not to exceed amount and the fee based on an hourly rate. For example, if I completed a task that had a not to exceed so many hours and that I did it in 75 percent the time allowed, then I saved the client a quarter of the cost for that particular task.

INCOME STATEMENT

The income statement often goes by another name, profit and loss statement. This is a snap shot of your company's monthly revenue and expenses. I utilize this to help me determine how my company did for the previous month. Figure 9 is a simple example of an income statement. Revenue refers to the accounts receivable. For consultants, this means what your clients pay for your services. Remember that there may be outstanding invoices but these are not included until the client pays them and then they will be logged in under the month that they are paid.

For a home office, there are three kinds of expenses. Direct expenses are those for business part of your home, such as painting or repairs only in the space of your business. Indirect expenses are for keeping up and running your entire business, such as insurance, utilities, and general repairs. Unrelated expenses are for the parts of your home not used for business, such as lawn care or painting a room not part of the business.

The last part of an income statement is the subtraction of the expenses from the revenue. If this is positive, then it is net income and if this is negative, then it is net loss. Since this is a month-to-month picture, some months will have a net loss when there is little revenue and some months that will have a big net income. I hope that by the end of the year, my company will have more gains than losses.

Figure 9: Income Statement.

Income Statement

	This Month	%
Sales		
Category A	8,500	
Category B		
Returns	( )	
Total Sales		
Cost of Sales		
Category A	2,750	
Category B		
Total Cost of Sales	(2,750)	
Gross Profit	5,750	
Operating Expenses		
Advertising	100	
Car and Truck	30	
Commissions		
Depreciation & Section 179	17	
Wages	918	
Insurance	125	
Interest on Business Debt	600	
Legal, Professional		
Office Supplies, Postage	62	
Rent & Leases	1,000	
Repairs & Maintenance	330	
Supplies Not For Resale	125	
Taxes & Licenses	600	
Travel, Meals, Entertainment	365	
Utilities, Telephone	250	
Bank Charges		
Donations		
Office Expense		
Laundry, Cleaning		
Miscellaneous	50	
Total Operating Expenses	(4572)	
Net Profit or (Loss)	1178	13.85

Source: (Fleury, 1995)

CASH FLOW STATEMENT

The pro forma cash flow statement is the same as a company's budget. This is an internal planning document. The statement estimates of how much money will flow into and out of your business during a specific period. The cash flow statement reflects when your company expects to be received cash and when the company expects to pay bills and other debits. Remember that this statement only deals will accrual cash transactions and is an extremely valuable tool to ensure that your company will have cash on hand to pay for its obligations. Figure 10 is a partial cash flow statement but is good to illustrate what one looks like. I typically do my cash flow statement by quarters. This helps me determine how much cash I need to pay bills and is useful for forecasting the next quarter.

The major source of a company's income is payment for services rendered. A new consulting firm does not have the history of income statements to help in this forecasting. One may do research on your competitors to view their sales patterns for the first few years to come up with your forecasting. Sometimes forecasting is similar to using those magic balls to get an accurate answer to your questions. I know that I missed my first year forecasting by being a little too ambitious for the economic situation of last year. This statement is an estimate, so the better the information that you can utilize the more accurate the forecast you will calculate.

TAXES

Taxes will affect your startup company's cash flow. Taxes may also cause you great consternation. Everyone has paid taxes before, but not to the degree that you will pay as a small business owner. In fact, most business owners cite taxes as their biggest hindrance. Taxes are a hassle, but if you are diligent, you can make some of the

Figure 10: Cash Flow Statement.

Ace Sporting Goods

Partial Cash Flow Statement

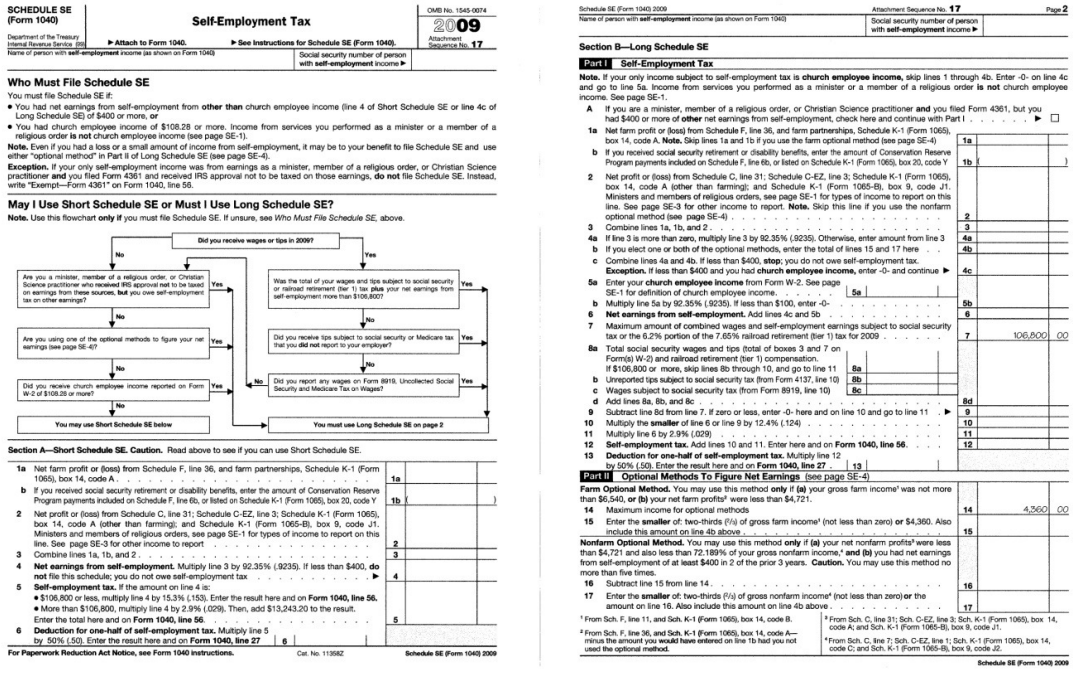
	Jan	Feb
BEGINNING CASH BALANCE	**20,000**	**58,606**
CASH RECEIPTS		
A. Sales/Revenues	4,000	2,000
B. Receivables	0	0
C. Interest Income	100	120
D. Sale of Long-Term Assets	0	0
TOTAL CASH AVAILABLE	**24,100**	**60,726**
CASH PAYMENTS		
A. Cost of goods to be sold		
1. Purchases	0	30,000
2. Material	0	0
3. Labor	5,000	400
Total Cost of Goods	**5,000**	**30,400**
B. Variable Expenses (Selling)		
1. Advertising	300	
2. Freight	120	
3. Fulfillment of Orders	0	
4. Packaging Costs	270	
5. Sales/Salaries	0	
6. Travel	285	
7. Miscellaneous Selling Expense	165	
Total Variable Expenses	**1,140**	
C. Fixed Expenses (Administrative)		**CONTINUE**
1. Financial Admin	80	**as in**
2. Insurance	125	**JANUARY**
3. License/Permits	200	
4. Office Salaries	500	
5. Rent Expenses	110	
6. Utilities	200	
7. Miscellaneous Administrative Expense	0	
Total Fixed Expenses	**1,215**	
D. Interest Expense	0	
E. Federal Income Tax	0	
F. Other Uses	0	
G. Long-Term Asset Payments	1,139	
H. Loan Payments	0	
I. Owner Draws	2,000	
TOTAL CASH PAID OUT	**10,494**	
CASH BALANCE/DEFICIENCY	**13,606**	
LOANS TO BE RECEIVED	40,000	
EQUITY DEPOSITS	5,000	
ENDING CASH BALANCE	**58,606**	

Source: (Pinson, 2008)

tax laws and deductions work for you. You will want to face your tax burden while you are doing your start-up research. You will want to include taxes in your business plan and include them as costs of business

For a sole proprietorship, you have to pay self-employment (SE) tax. This is the Social Security & Medicare tax. To pay this tax, one must file a Schedule SE (Form 1040) as shown in Figure 11. Only the first $102,000 combined wages, tips and net earnings are subject to a 15.3 percent tax rate. This SE tax along with the normal income tax is paid as an estimated tax to the IRS. This estimated tax can be paid in full by April 15 of that year or be broken into four payments throughout the year on April 15, June 15, September 15, and January 15. A sole proprietorship can either file under their SSN or obtain an Employer Identification Number (EIN).

Figure 11: Schedule SE (Form 1040), IRS.



SCHEDULE SE (Form 1040) — Self-Employment Tax — OMB No. 1545-0074 — 2009

Department of the Treasury, Internal Revenue Service (99) — ▶ Attach to Form 1040. ▶ See Instructions for Schedule SE (Form 1040). — Attachment Sequence No. 17

Name of person with self-employment income (as shown on Form 1040) — Social security number of person with self-employment income ▶

Who Must File Schedule SE

You must file Schedule SE if:

- You had net earnings from self-employment from **other than** church employee income (line 4 of Short Schedule SE or line 4c of Long Schedule SE) of $400 or more, **or**
- You had church employee income of $108.28 or more. Income from services you performed as a minister or a member of a religious order **is not** church employee income (see page SE-1).

Note. Even if you had a loss or a small amount of income from self-employment, it may be to your benefit to file Schedule SE and use either "optional method" in Part II of Long Schedule SE (see page SE-4).

Exception. If your only self-employment income was from earnings as a minister, member of a religious order, or Christian Science practitioner **and** you filed Form 4361 and received IRS approval not to be taxed on those earnings, **do not** file Schedule SE. Instead, write "Exempt—Form 4361" on Form 1040, line 56.

May I Use Short Schedule SE or Must I Use Long Schedule SE?

Note. Use this flowchart **only if** you must file Schedule SE. If unsure, see *Who Must File Schedule SE*, above.

Section A—Short Schedule SE. Caution. Read above to see if you can use Short Schedule SE.

1a	Net farm profit or (loss) from Schedule F, line 36, and farm partnerships, Schedule K-1 (Form 1065), box 14, code A	1a	
b	If you received social security retirement or disability benefits, enter the amount of Conservation Reserve Program payments included on Schedule F, line 6b, or listed on Schedule K-1 (Form 1065), box 20, code Y	1b	( )
2	Net profit or (loss) from Schedule C, line 31; Schedule C-EZ, line 3; Schedule K-1 (Form 1065), box 14, code A (other than farming); and Schedule K-1 (Form 1065-B), box 9, code J1. Ministers and members of religious orders, see page SE-1 for types of income to report on this line. See page SE-3 for other income to report	2	
3	Combine lines 1a, 1b, and 2	3	
4	**Net earnings from self-employment.** Multiply line 3 by 92.35% (.9235). If less than $400, **do not** file this schedule; you do not owe self-employment tax ▶	4	
5	**Self-employment tax.** If the amount on line 4 is: • $106,800 or less, multiply line 4 by 15.3% (.153). Enter the result here and on **Form 1040, line 56.** • More than $106,800, multiply line 4 by 2.9% (.029). Then, add $13,243.20 to the result. Enter the total here and on **Form 1040, line 56**	5	
6	**Deduction for one-half of self-employment tax.** Multiply line 5 by 50% (.50). Enter the result here and on **Form 1040, line 27**	6	

For Paperwork Reduction Act Notice, see Form 1040 instructions. Cat. No. 11358Z **Schedule SE (Form 1040) 2009**

Schedule SE (Form 1040) 2009 — Attachment Sequence No. 17 — Page 2

Name of person with self-employment income (as shown on Form 1040) — Social security number of person with self-employment income ▶

Section B—Long Schedule SE

Part I Self-Employment Tax

Note. If your only income subject to self-employment tax is **church employee income,** skip lines 1 through 4b. Enter -0- on line 4c and go to line 5a. Income from services you performed as a minister or a member of a religious order **is not** church employee income. See page SE-1.

A	If you are a minister, member of a religious order, or Christian Science practitioner **and** you filed Form 4361, but you had $400 or more of **other** net earnings from self-employment, check here and continue with Part I ▶ ☐		
1a	Net farm profit or (loss) from Schedule F, line 36, and farm partnerships, Schedule K-1 (Form 1065), box 14, code A. **Note.** Skip lines 1a and 1b if you use the farm optional method (see page SE-4)	1a	
b	If you received social security retirement or disability benefits, enter the amount of Conservation Reserve Program payments included on Schedule F, line 6b, or listed on Schedule K-1 (Form 1065), box 20, code Y	1b	( )
2	Net profit or (loss) from Schedule C, line 31; Schedule C-EZ, line 3; Schedule K-1 (Form 1065), box 14, code A (other than farming); and Schedule K-1 (Form 1065-B), box 9, code J1. Ministers and members of religious orders, see page SE-1 for types of income to report on this line. See page SE-3 for other income to report. **Note.** Skip this line if you use the nonfarm optional method (see page SE-4)	2	
3	Combine lines 1a, 1b, and 2	3	
4a	If line 3 is more than zero, multiply line 3 by 92.35% (.9235). Otherwise, enter amount from line 3	4a	
b	If you elect one or both of the optional methods, enter the total of lines 15 and 17 here	4b	
c	Combine lines 4a and 4b. If less than $400, **stop;** you do not owe self-employment tax. **Exception.** If less than $400 and you had **church employee income,** enter -0- and continue ▶	4c	
5a	Enter your **church employee income** from Form W-2. See page SE-1 for definition of church employee income. 5a		
b	Multiply line 5a by 92.35% (.9235). If less than $100, enter -0-	5b	
6	**Net earnings from self-employment.** Add lines 4c and 5b	6	
7	Maximum amount of combined wages and self-employment earnings subject to social security tax or the 6.2% portion of the 7.65% railroad retirement (tier 1) tax for 2009	7	106,800 00
8a	Total social security wages and tips (total of boxes 3 and 7 on Form(s) W-2) and railroad retirement (tier 1) compensation. If $106,800 or more, skip lines 8b through 10, and go to line 11 8a		
b	Unreported tips subject to social security tax (from Form 4137, line 10) 8b		
c	Wages subject to social security tax (from Form 8919, line 10) 8c		
d	Add lines 8a, 8b, and 8c	8d	
9	Subtract line 8d from line 7. If zero or less, enter -0- here and on line 10 and go to line 11 ▶	9	
10	Multiply the **smaller** of line 6 or line 9 by 12.4% (.124)	10	
11	Multiply line 6 by 2.9% (.029)	11	
12	**Self-employment tax.** Add lines 10 and 11. Enter here and on **Form 1040, line 56**	12	
13	**Deduction for one-half of self-employment tax.** Multiply line 12 by 50% (.50). Enter the result here and on **Form 1040, line 27** 13		

Part II Optional Methods To Figure Net Earnings (see page SE-4)

Farm Optional Method. You may use this method **only if (a)** your gross farm income[1] was not more than $6,540, **or (b)** your net farm profits[2] were less than $4,721.

14	Maximum income for optional methods	14	4,360 00
15	Enter the **smaller** of: two-thirds (⅔) of gross farm income[1] (not less than zero) **or** $4,360. Also include this amount on line 4b above	15	

Nonfarm Optional Method. You may use this method **only if (a)** your net nonfarm profits[3] were less than $4,721 and also less than 72.189% of your gross nonfarm income,[4] **and (b)** you had net earnings from self-employment of at **least** $400 in 2 of the prior 3 years. **Caution.** You may use this method no more than five times.

16	Subtract line 15 from line 14	16	
17	Enter the **smaller** of: two-thirds (⅔) of gross nonfarm income[4] (not less than zero) **or** the amount on line 16. Also include this amount on line 4b above	17	

[1] From Sch. F, line 11, and Sch. K-1 (Form 1065), box 14, code B.

[2] From Sch. F, line 36, and **Sch. K-1 (Form 1065),** box 14, code A—minus the amount you **would have entered** on line 1b had you not used the optional method.

[3] From Sch. C, line 31; Sch. C-EZ, line 3; Sch. K-1 (Form 1065), box 14, code A; and Sch. K-1 (Form 1065-B), box 9, code J1.

[4] From Sch. C, line 7; Sch. C-EZ, line 1; Sch. K-1 (Form 1065), box 14, code C; and Sch. K-1 (Form 1065-B), box 9, code J2.

Schedule SE (Form 1040) 2009

Once you start employing people, you are responsible for Social Security taxes for those you employ. The current tax rate is 7.65 percent for employees and the employer pays 7.65 percent. Payment is due each quarter. You, as the owner are also responsible for federal unemployment taxes (FUTA). A company will pay this tax quarterly and the current tax rate is 6.2 percent and applies to the first $7,000 in yearly wages. Everyone is familiar with income withholding taxes. As an employer, you will be responsible for using government formulas to determine the tax amount deducted from your employee's paycheck.

Chapter 5: Marketing

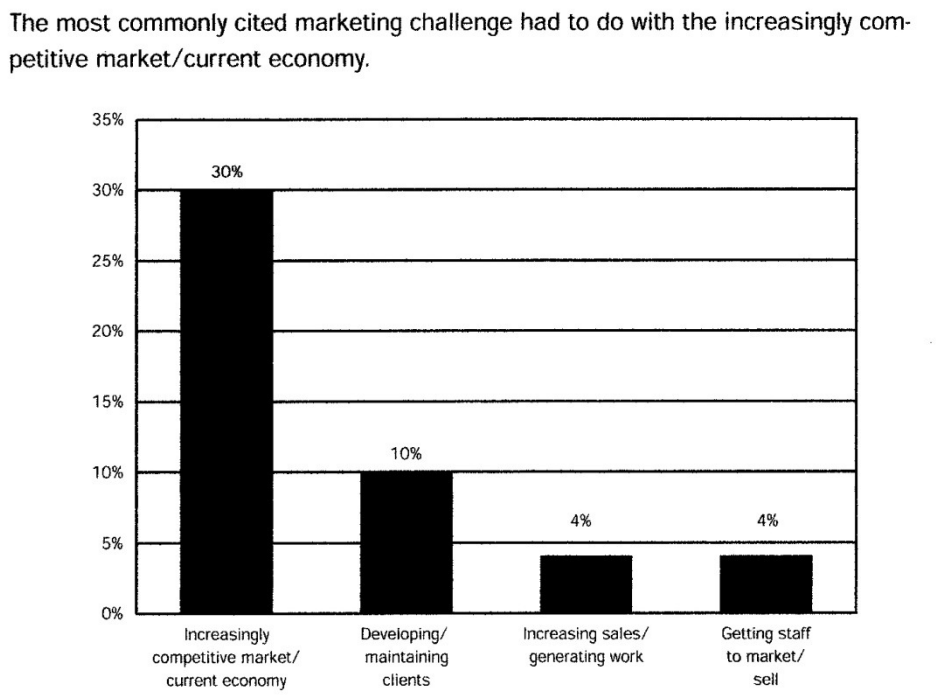
My company, KT Engineering had its one-year anniversary this past May. Looking back over the last year, there are several areas that needs improvement. I will focus on one of these areas, which is marketing. Marketing and sales are the lifeblood of an engineering consulting firm. If a business does not let people know who they are and get them to buy what they are selling, then the business venture will fail. Specifically for my company this means getting new clients and paring their needs with my civil engineering services.

MARKETING BASICS

Marketing is the process by which companies advertise products or services to potential customers. For a consultant, this means that you tell potential clients what you do, repeatedly. I try to inform potential clients that KT Engineering's completive edge is providing practical solutions, which will save them money. Getting these potential clients to hear what you have to offer and then remember you when they need your service is an enormous challenge. Figure 12 shows other commonly cited marketing challenges for a consulting firm.

The most important part of marketing is to identify the target clients who will be purchasing the consulting services. The target groups of potential clients for civil engineering services are architectural firms, developers, and property owners. An architectural firm is typically the prime consultant of a project. A developer typically selects them and the architect then selects any sub consultants needed on the project such as a civil engineer. A developer owns large tracts of property and wants to develop the raw land. A typical project can range from a residential subdivision to a commercial

Figure 12: Marketing Challenges.



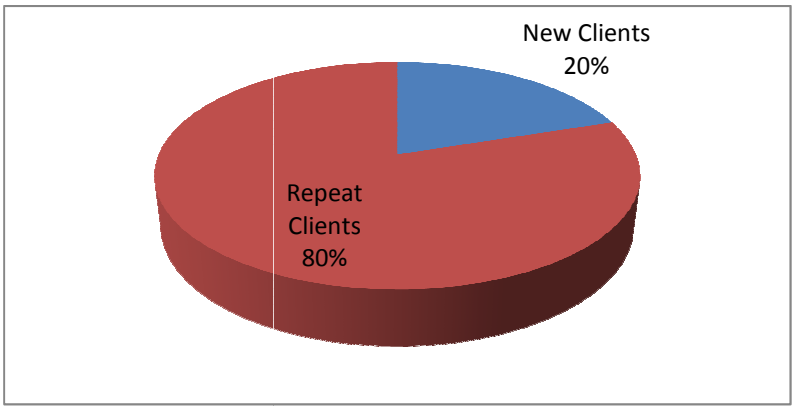
Source: (ZweigWhite, 2010)

development. Developers typically chose the design team for their projects and often stay loyal to those design members, but are always looking to lower design fees. The last group includes both residential and commercial property owners. This group is typically one-time clients who need civil engineering services for their particular project. Some types of clients in this group include church pastors or business owners looking to expand or relocate.

Unlike other businesses, consulting engineering firms have mostly other businesses as clients. As stated earlier in the paper, relationships between the consultant and their clients are very important in keeping current clients and getting new ones. On an economic viewpoint, getting a new client will cost a firm about six times what it costs to retain a current client. In the ZweigWhite survey, more than two-thirds of the firms

keep track of the new clients verses repeat clients. Figure 13 shows the breakdown of work between new and repeat clients. Because the nature of a consulting engineering firm, managing a client relationship is working on the long-term relation and also involves dealing with the day-to-day client relation during the life of a project.

Figure 13: Work Breakdown between Clients.



Source: (ZweigWhite, 2010)

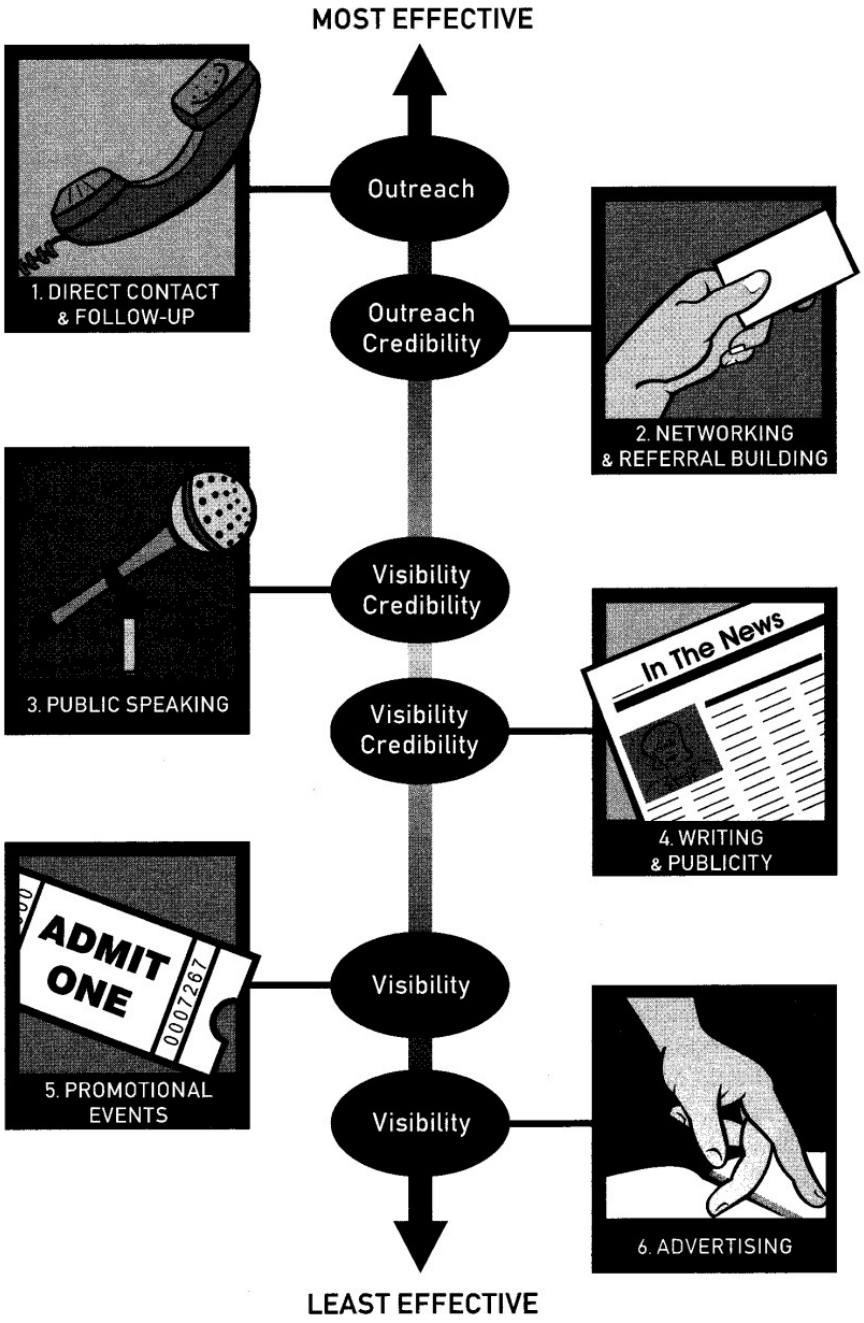
MARKETING STRATEGIES

Marketing a service is not the same as marketing a product. Services are intangible until the consultant performs them. Marketing strategy is a method of focusing ones energy into a specific process or action, which will lead to new clients and/or projects. Figure 14 shows marketing strategies for professional services ranked from most effective to less effective. As shown in the figure, there are many types of marketing strategies, which a consultant will utilize. I will only focus on the two most effective strategies, direct contact and networking.

DIRECT CONTACT AND FOLLOW-UP

As one can guess, direct contact involves making personal contact with a prospective

Figure 14: Marketing Strategies for Professional Services.



Source: (Hayden, 2007)

client by phone, in person, or by mail, fax, or e-mail. When I first opened my company, I wished that potential clients would just knock on my door and state, "Here I am!" An integral part of business operations for a business owner is selling. Therefore, one must overcome the reluctance in making cold calls. Rosen suggested that the best time to make these cold calls is when one feels refreshed and energized. For most, this time will be the start of the business day. Please keep in mind that the conversation should be friendly in nature. The majority of salesperson gives up after the second contact with potential clients. However, 80 percent of new sales come after the fifth contact. (Rosen, 2005)

A consultant uses two types of calls to get new clients. Cold calls occur when you contact a complete stranger. You typically have reason to believe these people would benefit from your services. The other is warm calls, which are to clients whom you have met before or the person is a referral. Before making the call, one must fist do research on the potential client. Their company's web page typically has information about the company and the potential client. Please note that the owner or president may not always be the decision maker when it comes to hiring consultants. As a consultant, one must mentally put them self in the client's position in order to establish an in-depth understanding of their problems. A question to ask yourself in this process is how your company can help solve this client's problem.

The next step is preparing a general statement. This statement helps organize your thoughts and is only an outline for talking to your potential client. The first part needs to grab the client's attention. Experts claim that a salesperson has approximately 20 seconds to capture the customer. The next portion of your statement is to identify yourself and your company. Then you state the reason for your call followed by a

qualifying or questioning statement. The last line in your statement should be to set an appointment with a specific time and date. Figure 15 is what I use for my company's general statement. I suggest practicing a few times before you make that phone call.

Figure 15: KT Engineering General Statement.

> Hello, Mr./Mrs. _____. Chris Brissette from KT Engineering. Do you have a quick minute? Great! I'm sure you are busy, so I'll be brief. The reason for my call is this. We specialize in working with owners/project managers so that they can concentrate on managing their land development project without having to worry about the civil engineering design. We have over fifteen years of experience in both commercial and residential civil engineering design. KT Engineering can help keep your company's competitive edge by providing practical solutions and help reduce construction cost. Let us get together for fifteen minutes to if there is a fit. I will answer your questions and show you examples of how I can provide you with quality civil engineering services. What day would be good for you, towards the beginning or the end of the week? Do mornings or afternoons work better for you? Fantastic. I'm looking forward to meeting with you on ____ at _____. Have a great day!

One of the most important tasks in cold calling is getting past the secretary. One must keep in mind that the secretary is not an enemy. Like everyone, the secretaries are only doing their job, which is screening calls. They can become an important asset to you because they often control their boss's appointments and have some influence with them. They are also the keeper of important information necessary to reach your potential client. It will pay to be kind to them when calling. Some of this information is if their boss is on vacation, at lunch or at a meeting and if there is the best time to reach them. You may have to leave a message with the secretary or you may have to leave a message on the potential client's voice mail. Please keep your message brief and make sure to state the benefits of your company.

Follow-up is one of the most important processes in direct contact. I have already told the story about my newest client whom another firm did not return his phone call. There are different ways to do this follow-up and some will work better than others will.

Remember that everyone is different, so what may work for one client may not work for another client. Lunch or coffee with potential clients is an excellent follow-up strategy. This works because you meet in a relaxed setting that is neutral to both parties. I typically bring to these follow-up meetings two items. One is a bibliography of me with a brief description of projects that I have worked on. The other is a brochure detailing the services provided by my company.

In-person or phone appointment is the most common method that people use after they make a cold call. At the appointment, you should give a brief and concise reason for your visit. Always remember that their time is as important to them as your time is to you. Another effective follow-up method is sending a personal letter or e-mail. I typically will send both. With today's electronic age, a personal letter can be very effective to winning over a potential client because most people do not send letters.

Because of technology, many potential clients make the first contact with you via your website. It is important that you develop this website to not only look professional, but give the potential client general information about the services your firm provides. A contact page is an important way for the potential client to send their contact information to you by e-mail. ZweigWhite's latest marketing survey found that close to half of the A/E firms reported qualified leads due to their website over the past year. Of these firms, over eighty percent reported that the leads turned into projects.

NETWORKING

Networking today is not limited to exchanging business cards by circulating a crowded room of people. With the use of the internet, many firms use social networks for marketing. ZweigWhite's survey found that of those firms who use social networks, fifty-two percent uses Linkedin and twenty-seven percent uses Facebook. I myself only

use Facebook to keep in touch with family and friends. For potential clients and fellow associates, I use Linkedin. In Linkedin, one can join many different groups that have common interest as you have.

Joining an organization is one of the best ways to expand your network quickly. These organizations can be professional, collegiate, or even a local chamber of commerce. I have become a member of ASCE (American Society of Civil Engineers) to keep in touch with other colleges. I have also targeted several other organizations that will get me in contact with my target clients such as Greater Houston Builders Association for builders and developers, AIA of Houston (professional affiliate membership) for architects and US Green Building Council for both. There are other ways to grow your network such as attending professional meetings or seminars. One can also volunteer or serve on a committee to gain visibility for either yourself or your company. To become successful, you do not want to remain isolated. Do not forget suppliers and other past contacts in your network.

Chapter 6: Conclusion

Now that you have read this thesis, answers to questions about starting an engineering consulting firm are satisfied. I first laid out several steps to follow. These steps are the basics to starting a business. I then explained the importance of writing a business plan. Remember to always to revise this plan as your business grows. Clients and project proposals are what drives and sustains a consulting firm. Finally do not forget that you must first make direct contact, follow-up, and even network in order to get those clients and write those proposals.

2010 has been a steady year for my own company. Over the past summer, I had to subcontract some drafting because of several projects starting at the same time. Luckily, I was able to get an old colleague recently laid off. One thing about having your own business is that you have to believe in both yourself and your company. That and faith in God will get you through the slow times. The biggest change that I plan before the end of the year is to change my company's name to Brissette Engineering. This change stemmed from several comments from my clients and will help them and future clients associate my company with me.

Now that I am finished with my masters, I plan on concentrating on my company's completive edge and marketing. For 2011, I am planning to get LEED AP certification. Like all certifications, the test is easy but it just cost money and for a small firm that means cash flow planning. I am also going to attend a Houston low impact development workshop. This will mesh with the certification and give me an opportunity to network. I am a little optimistic that 2011 will be better than 2010 for my company. I am hopeful that in a few years, I will have to hire and move from a home office to an office space.

Appendix A: KT Engineering Business Plan

KT Engineering

Civil Engineering Services

Business Plan

Prepared by:

KT Engineering

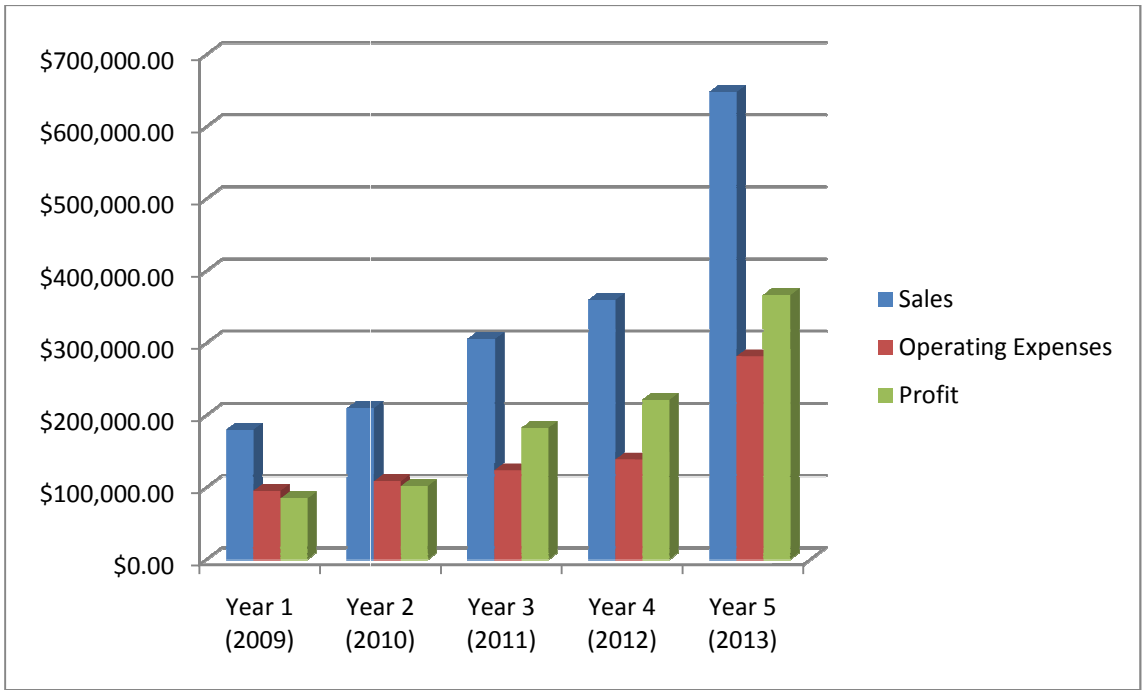
Civil Engineering Services

24418 Travis House Lane ● Katy, Texas 77493
832-437-4407 ● Fax: 832-437-4418
Texas Firm # F-11190

May 2009

EXECUTIVE SUMMARY

KT Engineering will be formed as a consulting firm specializing in civil engineering services. A small office at my residence in Katy, Texas will be established the first year of operation to reduce start up costs. The founder is a licensed professional engineer with over fifteen years of diverse experience in civil engineering design.



Objective

1. Modest revenues obtained the first year of operation, with steady growth over the next four years.

2. By the third year of operation, company will incorporate.

3. Company will keep a home office to reduce operation expenses. In the fifth year of operation, company will move into a small office space.

4. Company will increase operation expenses significantly in the fifth year of operation. Company will plan to hire a secretary and a young engineer.

Mission Statement

"Design innovative and practical solutions to meet the needs of our clients through expert service."

Keys to Success

1. Provide quality professional services on time and on budget.
2. Develop a client base that supplies a continuous flow of projects.
3. Develop a follow-up strategy to gauge performance with all clients.

COMPANY SUMMARY

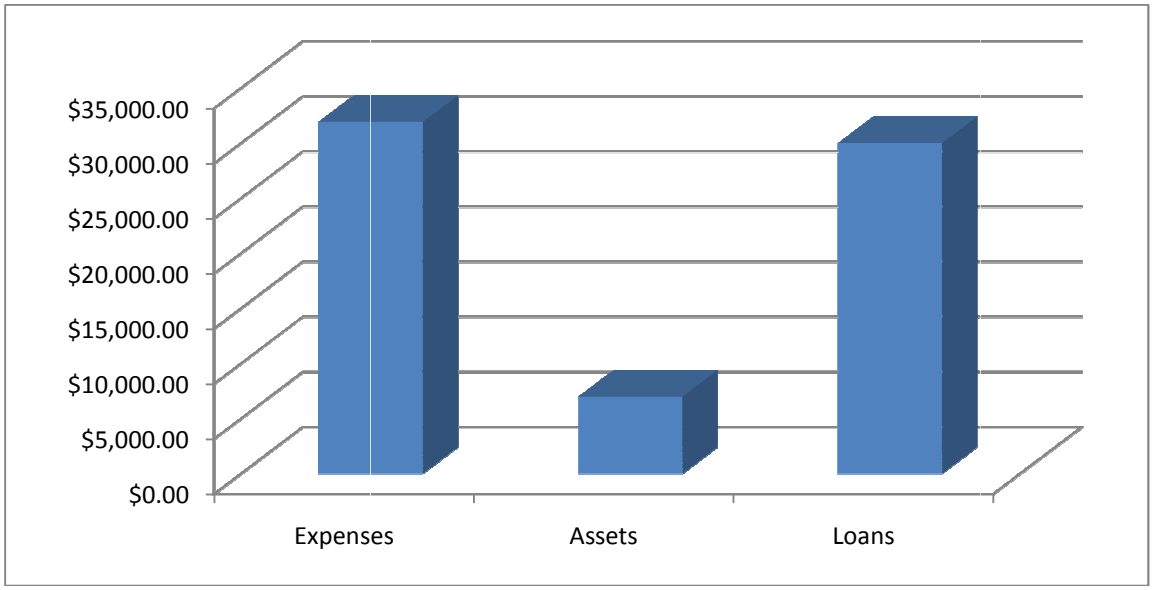
KT Engineering a company providing professional civil engineering services for clients developing residential or commercial projects. The company's focus will be to attract the private sector, architects, owners, and developers throughout the greater Houston area. Within the first year, become a LEED Accredited Professional in order to capitalize on the environmental green building market.

Company Ownership

KT Engineering will be created as a sole proprietorship. Christopher P. Brissette, a licensed professional engineer in the State of Texas, will privately own the company. His title will be President of KT Engineering.

Start Up Summary

Start up expenses allow for initial legal expenses, licenses, computer equipment, specialty software, office supplies, and furniture.



Start Up Funding

Start Up Expenses	$31,938.21
Start Up Assets	$ 7,000.00
Start Up Loan	$30,000.00

Start Up Expenses

Legal Cost	$200.00
Professional Liability Insurance	$4,526.00
Business State Licenses	$260.00
Web Development	$200.00
Office Furniture	$1,200.00
Computer Equipment w/software	$1,700.00
Office Supplies	$1,000.00
Marketing	$1,000.00
Professional Organizations	$1,805.00
Three Month Pay ($3,000/month)	$9,000.00
Three Month of Monthly expenses	$9,993.21
Business Insurance	$1,054.00
Total Start Up Expense	**$31,938.21**

Company Location

KT Engineering will be establishing a small office at my residence in Katy, Texas in order to reduce start up cost. Office space is estimated to be a hundred (100) square feet or approximately four percent of the total home size. An interactive web site will be developed which will serve as a marketing tool. The domain name of "ktengineering-civil.com" will be established.

SERVICES SUMMARY

The provided services falls under Standard Industry Classification (SIC) code 8711 – Engineering Services. This category covers establishments engaged primarily in providing professional engineering services. Civil, mechanical, electrical and electronic, chemical, sanitary, industrial, petroleum, mining, aeronautical, and marine engineering are among the disciplines included. Establishments primarily providing and supervising their own engineering staff on temporary contract to other firms are included in this industry. Establishments providing engineering personnel, but not general supervision, are classified in SIC 7363: Help Supply Services. Establishments primarily providing architectural services are classified in SIC 8712: Architectural Services, and those providing photogrammetric engineering are classified in SIC 8713: Surveying Services.

The provided services also fall under North American Industry Classification System (NAICS) code 541330 – Engineering Services. This industry comprises establishments primarily engaged in applying physical laws and principles of engineering in the design, development, and utilization of machines, materials, instruments, structures, processes, and systems. The assignments undertaken by these establishments may involve any of the following activities: provision of advice, preparation of feasibility studies,

preparation of preliminary and final plans and designs, provision of technical services during the construction or installation phase, inspection and evaluation of engineering projects, and related services.

KT Engineering utilizes its diverse experience in providing civil engineering from due diligence to the preparation of site development plans for a wide range of private projects. Clients include architects, owners, and developers. A range of services provide are:

- Construction Management
    - Construction Observation
    - Request of Information (RFI) Response
    - Shop Drawing Review
    - Pre-Construction Meeting
- Detention Pond Design
- Drainage Studies
- Due Diligence/ Feasibility Studies
- FEMA Map Revision (CLOMR-F/LOMR-F)
- Site Development Design
    - Multi- and Single-Family Residential Projects
    - Commercial Projects
- Stormwater Pollution Prevention Plans
- Stormwater Quality Management

LEED Accredited Professional

Developed by the U.S. Green Building Council (USGBC), LEED stands for "Leadership in Energy and Environmental Design". According to USGBC's web page, a green building is defined as being environmentally responsible, profitable, and healthy places to live & work. The Council provides LEED Professional Accreditation to distinguish building professionals, which have the knowledge of the LEED certification process. LEED Accredited Professionals (LEED APs) can range from architects, engineers, contractors, owners, and governmental officials. More than 75,000 people have earned the

credential since the Professional Accreditation program was launched in 2001.

Within the first year, become a LEED Accredited Professional (AP) in order to capitalize on the environmental green building market. As of March 31, 2009, Civil Engineering professionals are the seventh largest group of LEED AP nationally and Texas is the third State with the most LEED Accredited Professionals. There is currently no LEED AP in Katy, Texas.

Marketing

A brochure will be developed during the first year as a mailer to the target market segment of Architects and Developers. This brochure will include a list of services, contact information, a brief professional biography of Christopher P. Brissette and will also highlight KT Engineering's completive edge.

Web page will be developed the first year of operation and include a description of services, contact information, a list of representative projects, and a brief professional biography of Christopher P. Brissette. The domain name of "ktengineering-civil.com" will be established.

Initial advertisement will be a half page ad in the Katy High School athletic programs. This will also include the Award Ceremony sponsorship and a one-hole sponsorship in the golf tournament. I will also invest is sponsorships to the band booster and theater booster who list their sponsors in their programs as well. This is an inexpensive means to target desired clients in the Katy area.

Service Descriptions

Construction Management: Provide construction observations, which monitor contractor's milestones and completion dates for private developments. Conduct coordination and constructability reviews of contractor's shop drawings and resolve any issues, which arise during construction with the contractor.

Detention Pond Design: Provide a design of an on-site facility, which meets local municipality's requirement that the quantity of storm water runoff from new developments should not alter predevelopment conditions.

Drainage Study: Provide a report, which performs hydrologic and hydraulic analyses on both the existing conditions and development conditions of the client's property.

Due Diligence / Feasibility Study: Provide a report, which assess the potential a property has for development and the ability a property has for supporting client's needs. This report may also provide the client with a Value Engineering Assessment of the project.

FEMA Map Revision: Provide assistance for projects within the 100-year flood area that needs elevation certificate, request for both conditional letter of map revision (CLOMR) and letter of map revision (LOMR).

Site Development Design: Provides planning and design of water, sewer, paving, drainage, and grading of both residential (single-family and multi-family) projects and commercial projects. Careful planning, contracting municipalities and research local regulations can ensure obtaining approval and permits.

Storm Water Pollution Prevention Plan: Provide a report to ensure that a project complies with the TPDES General Permit relating to storm water discharges associated with either construction or industrial activity in accordance with Texas Commission on Environmental Quality (TCEQ).

Storm Water Quality Management Plan: Provide a report to ensure that a project complies with governmental regulations in reducing runoff pollution and quality into the environment through means that are site specific.

MARKET ANALYSIS SUMMARY

KT Engineering will focus on traditional architect/engineering (A/E) contracts. The client will usually contact to have planning and design services for a private project. These services will typically involve deliverables such as construction plans and reports. Construction Administration services will have the occasional field visit. Clients include architects, owners, and developers. Design fees are typically lump sum fee based on the acreage of the property and the level of complexity of the project.

Market Segmentation

The market for civil engineering services are summarized with the following groups:

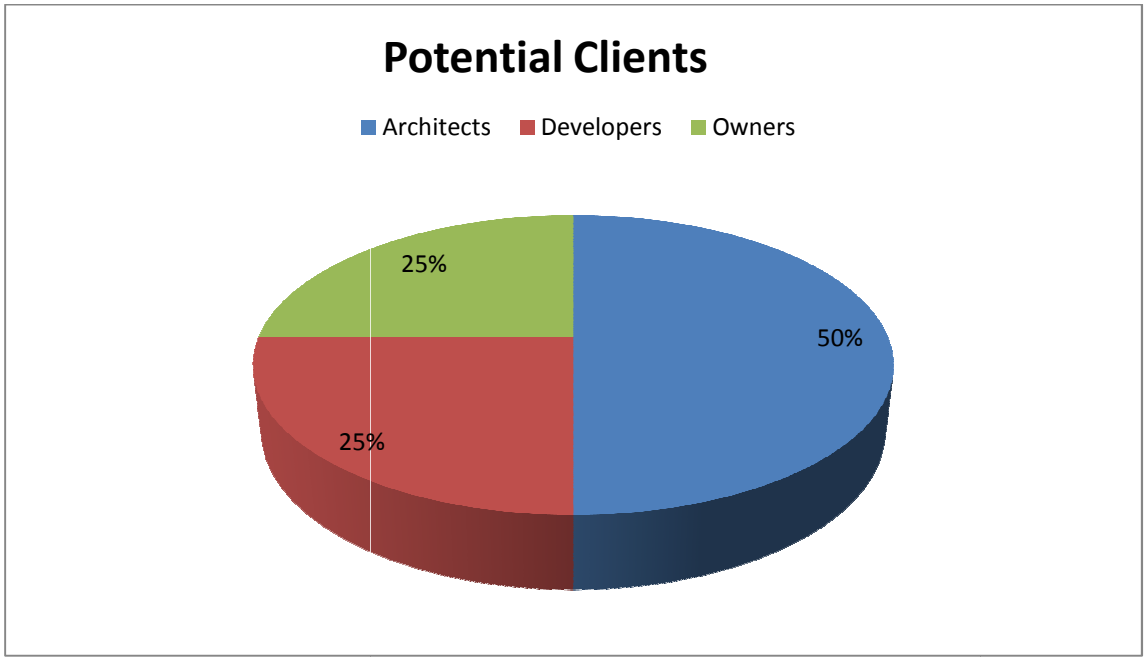
1. **Architectural Firms**: These typically established firms are the prime consultant of a project. They typically pre-select their team members, which involves the civil portion of the project and promotes their strengths in a proposal to prospective clients. Our strategy is to offer our practical engineering solutions to these

established firms. We can undertake the entire civil engineering process or provide assistance to their staff.

2. **Private Developers**: We will market our services to the developer community. Developers typically chose the design team for their projects and often stay loyal to their design team, but are always looking to lower design fees.

3. **Private Property Owners**: These are typically one time clients who need civil engineering services for their particular project. Clients typically include church pastors or business owners looking to expand or relocate.

The diagram below is based on percentages, which each group could contribute to the services offered. This manner of describing the potential market is more appropriate for this type of business. As can be seen, architectural firms account for half of the potential market with the others claiming equal portions.



Houston Real Estate Trends

O'Connor & Associates provided the Following Houston real estate trends, dated March 2008.

Apartments: The first quarter of 2008 had 101 projects under construction. The current apartment occupancy level is at 88%.

Single-family Housing: Houston is home to five of the nation's top 10 communities for new-home sales in 2008, according to a new study just released by RCLCO, a leading independent real estate advisory firm, which has compiled the annual list since 1994. In addition Houston has more top-selling communities than any other city on the list.

Office Building: The fourth quarter 2007 Houston office data has office building occupancy level at 91% and rental rates at $27.59 per square foot.

Retail Centers: The fourth quarter 2007 Houston rental center data has occupancy level at 83% and rental rates at $2.11 per square foot.

National Civil Engineering Firm Trends

In a recent article in CE News magazine (May 2009), a survey was conducted to indicate the recent economic situation on civil engineering firms. According to the article, 71% of the surveyed respondents stated the economic conditions in the country as a whole are getting worse. Most firms expect that their income in 2009 will remain the same or that their income will slightly decrease. Despite the current economic situation, three-fourths of the respondents feel hopeful about the future and that it is a good time to be an engineer. Fifty-eight percent expect the civil engineering profession should enjoy a better economic outlook in 2010. In addition, the top five major market sectors that

firms are currently pursing are stormwater, roadways, non-residential/commercial, wastewater, and hydrology.

Houston Metro Area Engineering Service Firm Trends

BizMiner provided a report that analyzed the Houston Metro area for three years (2006 to 2008). The report defines startups as a single site firm with fewer than 50 employees, with less than $10 million annual sales and reporting one year or less of operation. There has been a steady increase of startups firms from 74 to 86 over the three years. The failure rate for established firms was 14.4% and 14.86% for startups over the three-year period. In 2008, the average annual sales for startups were $276,744 and survivor startups from 2006 were $496,032. In 2008, 57.59% of all firms had annual sales from $1-500 thousand dollars. These same firms captured 3% of the Houston market. In 2008, the survivor startup firm consisted of three employees after three years.

Main Competitors

Bulian Engineering – An established sole proprietorship one-person firm, which started practice in 2003. Firm provides consulting engineering with an emphasis on site development, public works and urban infrastructure projects.

Huzefa Mohammed Nulwala PE Inc. – An established sole proprietorship one-person firm, which started practice in 2003. Firm provides consulting engineering with an emphasis on site development, public works and urban infrastructure projects.

Jose R Hernandez-Mesa PE – An established sole proprietorship one-person firm, which started practice in 2001. Firm provides consulting engineering with an emphasis on site development, public works and urban infrastructure projects.

Robert James Consulting – An established sole proprietorship one-person firm, which started practice in 2001. Firm provides consulting engineering with an emphasis on site development, public works and urban infrastructure projects.

ATR Engineering – An established five-person firm, which started practice in 2007. Firm provides consulting engineering with an emphasis on site development, public works and urban infrastructure projects.

Clay & Leyendecker, Inc. – An established five-person firm, which started practice in 1986. Firm provides consulting engineering and surveying with an emphasis on public works and urban infrastructure projects. Firm is also local City Engineer for several small municipalities.

Strategy and Implantation Summary

KT Engineering will focus on West Houston/Katy area initially. However, we can provide civil engineering services in all surrounding counties of Harris, Fort Bend, Brazoria, Galveston, Montgomery, and Waller. The target client is usually an architect manager.

Competitive Edge

KT Engineering will provide the following competitive edge:

- Quality civil engineering design and analysis capabilities
- Practical design solutions
- An internet website
- Become a LEED Accredited Professional

Marketing Strategy

Initially the major players in the marketplace will be targeted with a direct mailer and e-mail campaign. This will make our presence known.

Initial advertisement will be a half page ad in the Katy High School athletic programs. This is an inexpensive means to target desired clients in the Katy area. This will also include the Award Ceremony sponsorship and a one-hole sponsorship in the golf tournament. This will help in making our presence known in the Katy area.

Also by joining the Katy Area Chamber of Commerce, will also help make our presence known in the Katy area. A press release by the Chamber will be posted in local newspapers and be included in their direct e-mail blast and placed on their web page.

Sometime within the first year, KT Engineering will be performing a class on US Navy Seabee training to the Katy Division of the US Naval Sea Cadets. This will provide free press release in the local newspaper. The press release will also be included in KT Engineering web page and be included in a second e-mail/flyer campaign.

Pricing Strategy

Most consulting work is billed on a lump sum, which is based on $90/hour. The following pricing will insure our competitiveness within the marketplace.

- Construction Management $ 90/hr
- Detention Pond Design
  - 1 AC $ 1,500
  - >1 AC $ 1,500 + 750/AC
- Drainage Studies $ 4,500
- Due Diligence/ Feasibility Studies $ 1,800
- FEMA Map Revision (CLOMR-F/LOMR-F) $ 5,000
- Site Development Design (grading, drainage, underground utilities, SWPPP)

- 1 AC $ 6,000
- >1 AC $ 6,000 + 1,200/AC

- Stormwater Pollution Prevention Plans $ 1,000
- Stormwater Quality Management $ 2,000

Sales Strategy

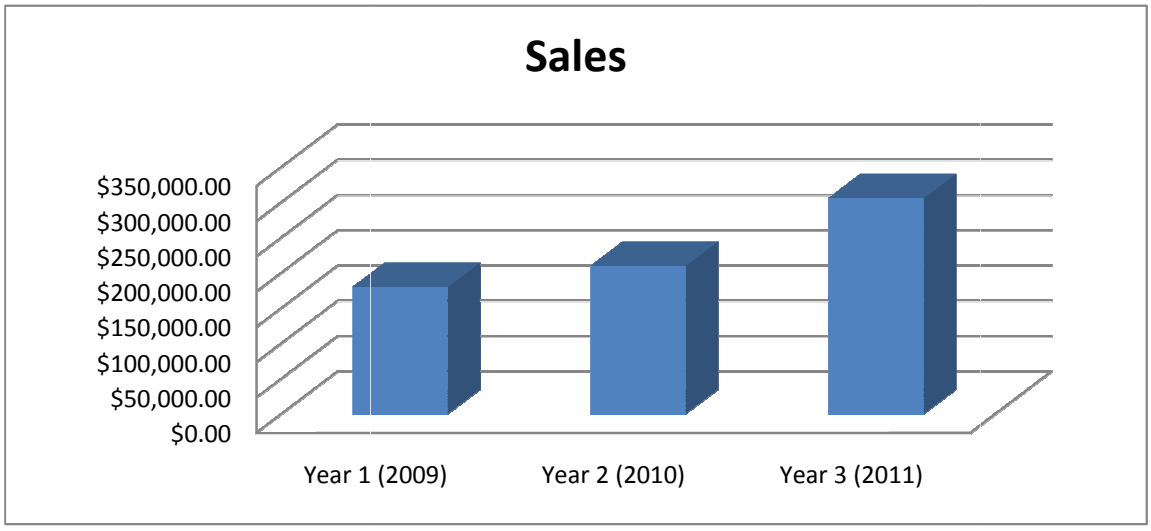
Success in a consulting market is focused on client service and typically translates into repeat business. When a potential client questions the cost, we will refer to our proposal, which clearly outlines the tasks to be performed. Billing rates and pricing are not negotiated. One exception to this rule would be not-for-profit organizations when marketing can be traded for services in kind.

Sales Forecast

The following sales forecast are based on a typical one-acre project with the following tasks and pricing.

Typical Project (1 AC)	Yr 1	Yr 3	yr 5
Site Design	$6,000.00	$7,200.00	$8,640.00
Detention	$1,500.00	$1,800.00	$2,160.00
SWPPP	$1,000.00	$1,200.00	$1,440.00
SWQMP	$2,000.00	$2,400.00	$2,880.00
Drainage Report	$4,500.00	$5,400.00	$6,480.00
Total	**$15,000.00**	**$18,000.00**	**$21,600.00**
Rates are based on $90/hr		Prices up 20%	Prices up 20%

KT Engineering anticipates performing twelve typical projects the first year with a steady growth of twenty percent over the next three years.



MANAGEMENT SUMMARY

KT Engineering will initially have one employee. Christopher Brissette will be responsible for all daily operations in the firm.

Management Team

Christopher P. Brissette (President) is a licensed professional engineer in the State of Texas with fifteen years of diverse experience. Chris will be responsible for soliciting clients, marketing, and all daily aspects of running the business. He graduated from Columbia College in 1994 with a Bachelor of Arts in Psychology and the University of Houston in 1999 with a Bachelor of Science in Civil Engineering. He is currently attending the University of Texas in Austin for a Master of Science in Engineering Management with an anticipated graduation of December 2010.

He served in the US Navy Seabees as an Engineering Aid from 1989 to 1995. His duties involved three construction areas: drafting, surveying and material testing. He attended

the University of Houston upon his discharge from the Navy. While he was in school, he gained valuable site design experience working at Brown & Gay Engineers, Inc. as a CAD designer.

Following graduation in 1999, Chris moved to Middletown, New York and worked for Tectonic Engineering Consultants PC for two years as a staff engineer. He gained experience in telecommunication site design and worked on several cell tower projects along with Lincoln Tunnel and Holland Tunnel projects.

In 2001, He moved to Chazen Companies, Inc. as a project engineer. He gained valuable site development experience in both residential and commercial projects. Representative residential projects include Meadow Winds and Fairways Development. Representative commercial projects include HO Penn and FedEx Freight.

Chris moved back to Houston, Texas in the Fall of 2003. He worked as a project engineer at Dannenbaum Engineering and gained invaluable land development experience. Representative residential projects include Villages at Mary's Creek Section Three and Four and Lone Trail Village Section One. Representative commercial projects include Triumph Hospital and Cypress Mill Shopping Center.

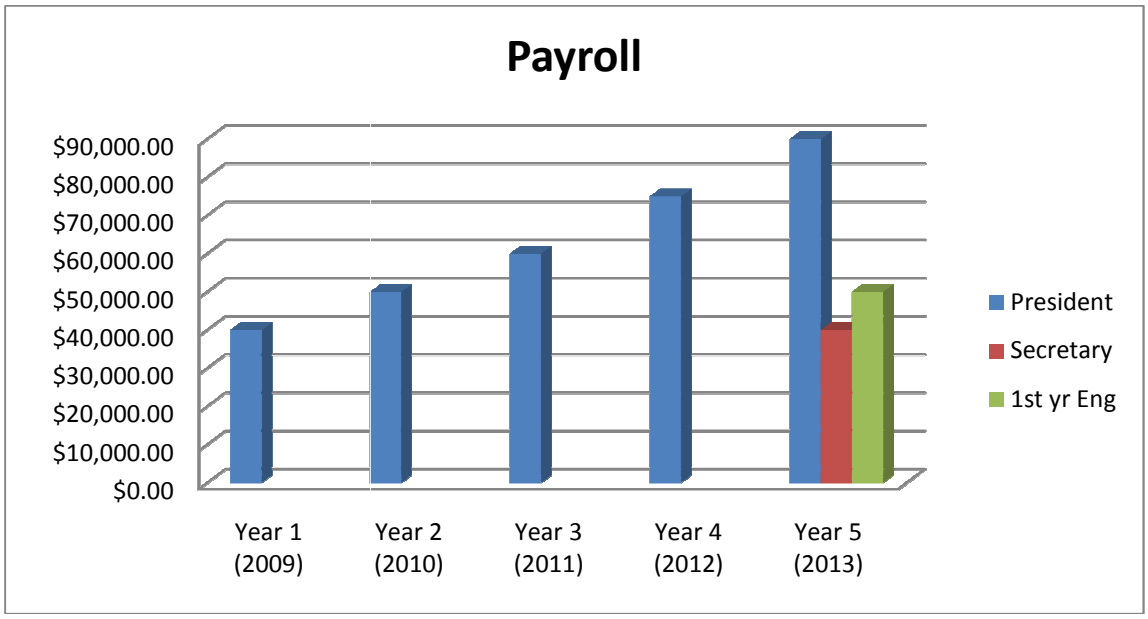
In 2006, He started work for Klotz Associates as a project engineer. He gained valuable site development experience in both residential and commercial projects. Representative residential projects include Oakbrook Estates Section Seven and Villages at Riverchase Section Two. Representative commercial projects include Lone Star Construction Building and Brazos Mall Additon.

Chris started his first business venture in 2007. He gained valuable ownership experience in offering site development services. Representative commercial projects include Church at Creek's End and Grace Family Church.

Late 2007, He started work for Cobb Fendley & Associates as a project manager. He gained valuable managerial experience with commercial projects. Representative commercial projects include several Wachovia Banks, Regent Square Development and Lakeview Business Park Phase One.

Personnel Plan

Over the next four years, KT Engineering will have only one employee. In year five, KT Engineering anticipates expanding to three employees. The following chart outlines the growth in the President's pay from $40,000 in the first year to $90,000 in the fifth year.



FINANCIAL PLAN

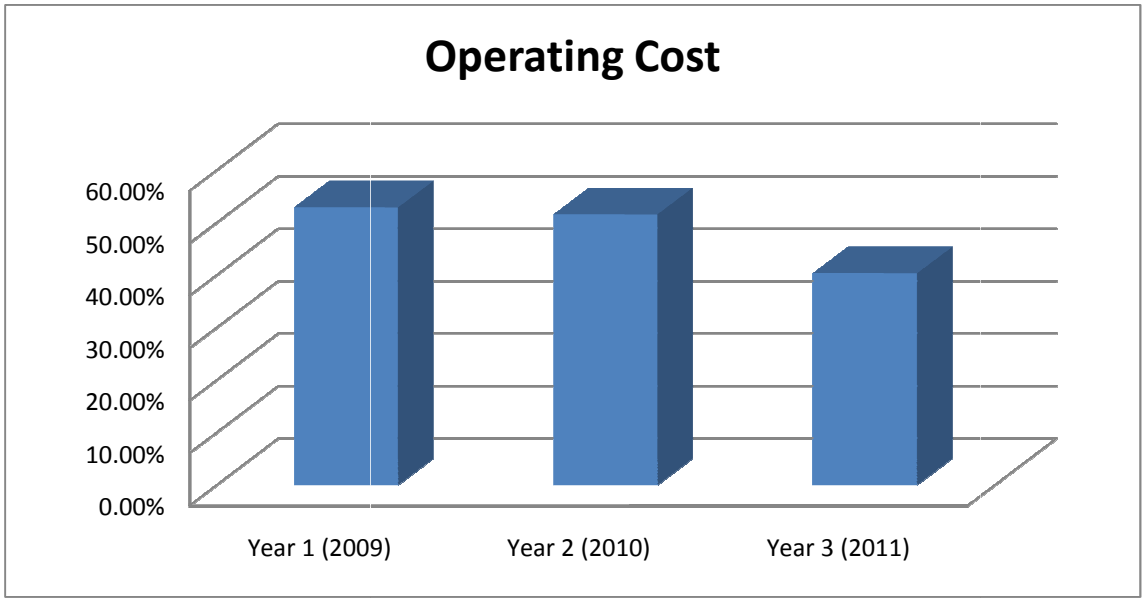
Important Assumptions

The financial plan depends on important assumptions. Some of the more important underlying assumptions are:

- We assume that the local economy will rebound from the current recession during the second half of 2009.
- We assume the local economy to stay stable and strong in 2010 without a dip back into a recession.
- We assume performing at least twelve typical projects outlined below.

Financial Indicators

1. Income per typical one-acre project is based on $90 per hour rate. The project consists of design and analysis necessary for governmental approval with a cost of $15,000.
2. Operating cost as a percentage of gross is depicted below.



Break-even Analysis

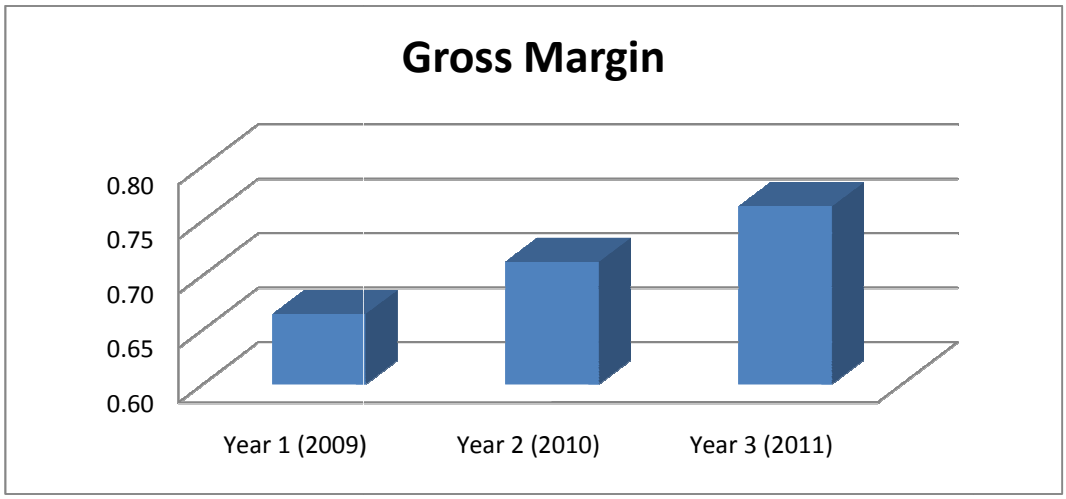
With the estimated monthly fixed costs, the table below shows the number of billing targets per month that is needed to cover KT Engineering's cost. The unit variable cost is assumed 30 percent of the unit revenue.

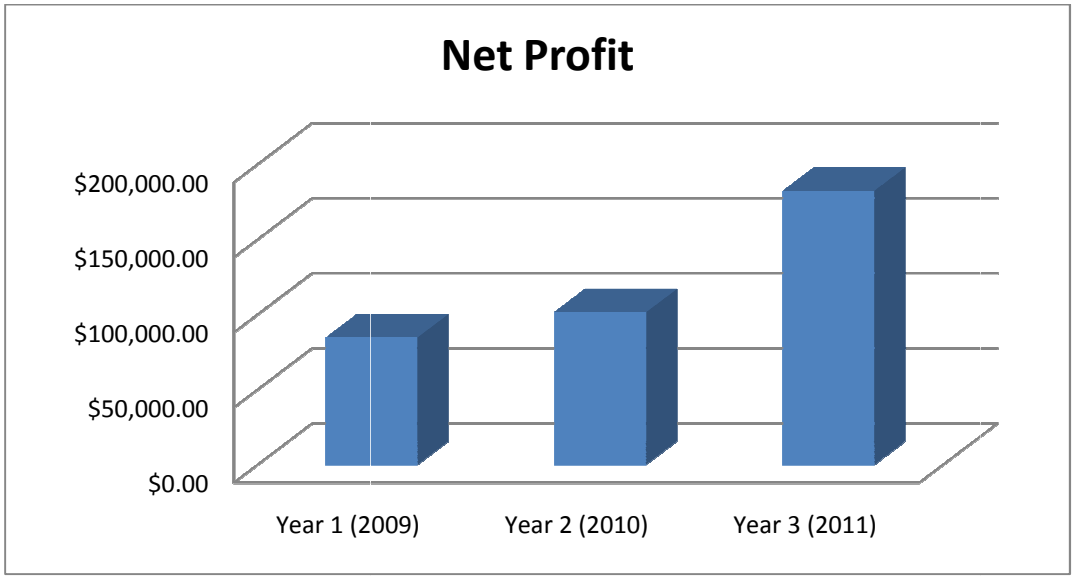
Breakeven Analysis (Monthly)
KT Engineering

Cost Description		Fixed Costs ($)	Variable Costs (%)
Variable Costs			
Vehicle Maintenance	$	200	30.0%
Advertising/Marketing	$	100	30.0%
Gas & Electric Utilities	$	65	30.0%
Water & Sewer Utilities	$	10	30.0%
Printing & Postage	$	300	30.0%
Office Supplies	$	250	30.0%
Vehicle Gas	$	200	30.0%
Fixed Costs			
Salaries	$	3,334	
Accounting and legal	$	50	
Rent	$	150	
Cell Phone W/web card	$	150	
Telephone w/ internet	$	129	
Web Page Management	$	15	
Self-Employment Tax	$	1,540	
Professional Liability Insurance	$	377	
Business Insurance	$	88	
Insurance	$	100	
Association Dues	$	150	
Professional Fees	$	22	
Loan Payment	$	1,000	
Total Fixed Costs	$	8,230	
Total Variable Costs			2.1
Breakeven Sales level =		$8,407	

Projected Profit

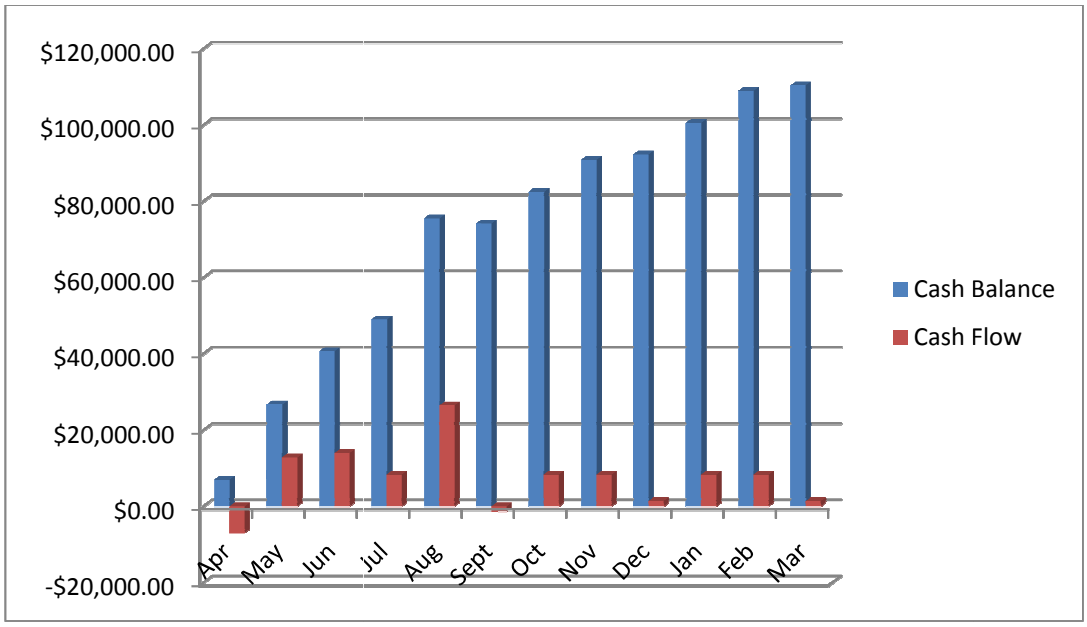
The gross margin for a service-based business is a reflection of the efficiency at which those services are offered. In the initial year of operations, a high gross margin is targeted. This is not an unreasonable figure for a consulting business. In the following years, KT Engineering is expected to slightly increase the gross margin due to improved efficiency at service delivery. Net profit after taxes is determined to be modest the first year and increase slightly over the following years.





Projected Cash Flow

Cash flow projections are critical to KT Engineering success. The projected first year monthly cash flow is shown below. The first few months are critical and start up cost is taken into account. This Cash flow takes into account a project proposal included in the Appendix.



Projected Balance Sheet

The balance sheet shows a projected steady growth over the next five years.

	Year 1 (2009)	Year 2 (2010)	Year 3 (2011)	Year 4 (2012)	Year 5 (2013)
Yearly Sales	$180,000.00	$210,000.00	$306,000.00	$360,000.00	$648,000.00
Yearly Expenses	$39,973.00	$39,973.00	$47,967.60	$47,967.60	$63,695.00
Yearly Payroll	$40,000.00	$50,000.00	$60,000.00	$75,000.00	$180,000.00
Yearly Profit	$100,027.00	$120,027.00	$198,032.40	$237,032.40	$404,305.00
Yearly Taxes	$15,304.13	$18,364.13	$15,606.00	$15,606.00	$37,820.20
Rollover	$84,722.87	$101,662.87	$182,426.40	$221,426.40	$366,484.80
Assumptions	only 12 projects	20% growth 14 projects	20% growth Prices up 20% 17 projects	20% growth 20 projects	20% growth 30 projects Prices up 20% Expenses Up

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VITA

Christopher Patrick Brissette was born in Waynesboro, Pennsylvania. After completing his work at Anderson High School, Austin, Texas, in 1984, he entered Midwestern State University in Wichita Falls, Texas. He joined the U.S. Navy in 1989. While he was stationed at Roosevelt Roads, Puerto Rico, he received the degree of Bachelor of Arts from Columbia College in October 1994. He received a honorable discharged from service in January 1995 and entered the University of Houston in Houston, Texas. He received the degree of Bachelor of Science from the University of Houston in December 1999. He has worked for several civil engineering firms over the past ten years. He was licensed by the State of Texas as a professional engineer in December 2004. In January 2009, he entered the Graduate School at the University of Texas at Austin. In May 2009, he started his own engineering consulting firm, KT Engineering.

Permanent Address: 1550 Katy Flewellen Road, #106
Katy, Texas 77494

This thesis was typed by the author.