

# Engineering Business Plan, Part II

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## Congratulations!!

Welcome to *Engineering Business Plan, Part II*, your do-it-yourself guide to creating a Business Plan that works for your engineering firm.

Once you've been through this guide, you'll know precisely what it takes to write an effective Engineering Business Plan and supporting documentation. More importantly, you'll have a sample of a powerful Business Plan to get you started.

This is the next step in your business story. From this point on, you won't have to stab in the dark – you'll have clear direction. You'll start to see some real results for your efforts.

Once completing the on-line course at our web-site [www.engineeringbusinesspubs.com](http://www.engineeringbusinesspubs.com), you will be awarded with 2 PDH. The on-line seminar includes reading this guide and passing the 10 question test on our web-site.

Currently 30 U.S States require licensed engineers to continuing education credits (PDH) in order to renew their license. The PDH awarded by our seminar will be accepted by your state licensing board. **I personally guarantee it.** If your state board rejects our on-line seminar PDH, please forward us a copy of the board's letter and we will refund to you the cost of the on-line seminar.

## How to Use this Guide

Each step covers an important aspect of your Business Plan – these are things that you must give special consideration to before releasing your Business Plan.

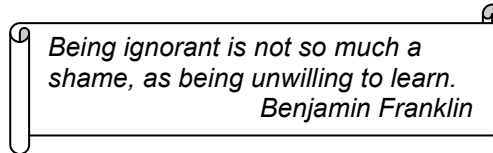
You will be surprised how much this guide will reveal about your business. It will get you to think about important issues that may have never crossed your mind in the past. It may also uncover new issues. But it is never a better time to put together or update your Engineering Business Plan than now.

Please go ahead and jot down some notes in the spaces provided. It will help to improve your Engineering Business Plan.

Later sections will go into greater depth describing the Engineering Business Model.

Now, it's time to get started.

## Types of Businesses



Let's review the various types of business structures; Sole Proprietor, Partnership, Limited Liability Corporation, and Corporation.

**Table 1 - Types of Business Structures**

<p><b>SOLE PROPRIETOR</b></p> <p>A Sole Proprietor business has only one owner that receives all of profits and is responsible for all of the debt.</p>	<p>A sole proprietor is only suited for a small business just starting. Once employees are being hired the liability alone makes little economic sense.</p>
<p><b>PARTNERSHIP</b></p> <p>A Partnership business has more than one owner and both profits and liability are shared by the owners.</p>	<p>Partnerships are basically sole Proprietor businesses. The Partnership spreads out the risks. Only well defined partner roles can work. Otherwise, due to economic reason, partnerships are not the best form of business.</p>
<p><b>CORPORATION</b></p> <p>A Corporation refers to a business started by more than one person that seeks to sell shares to investors.</p>	<p>Due to the tax advantages, a corporation is the best business form for a large company. If your firm is not already a corporation, then it usually recommended to file the necessary state paperwork to incorporate as soon as possible.</p>

### Becoming a Sole Proprietor

Believe it or not, you might already be a sole-proprietor without knowing it! Are you a freelance CAD operator? Do you sub-contract your skills to an engineering firm? Maybe you're a technical salesman who only receives a 10% commission? Well, guess what? You're a sole proprietor!

Of the three different types of business structures mentioned here, setting up as a sole-proprietor is by far the easiest. Very little paperwork is involved, if any. Messy agreements are out of the picture. And lawyers may not even be necessary (although they are, of course, highly recommended).

Most states will require you to obtain special permits or licenses that will allow you to conduct your engineering business, and almost all of the states will that in order to provide engineering services a state registered Professional Engineering must be employed. For more information about state and local laws, check with your accountant or lawyer, or even make a call to City Hall. Your lawyer will also know where to buy your business permit, and can inform you of any other laws or ordinances that your business will have to follow.

There are several attractive advantages to being a sole-proprietor, while there are just as many disadvantages. So let's address the key issues that you should consider before you start up your own sole proprietorship.

Due to the small amount of paperwork involved, and the minimal price of registration fees, becoming a sole-proprietor is a very simple undertaking. Because there is only one owner, that person has total control over most, if not all, business decisions. All company profits are paid directly to the owner, and aren't split with other people, such as partners. If the owner were to die, the company would be quite easy to dissolve, as it would be given to the beneficiary of the will. Running a business this way allows the owner to control their work schedule, which often delivers greater flexibility than some other options, and this is what makes sole proprietorships so appealing to so many people. Compared to partnerships and corporations, a sole-proprietor doesn't have anywhere near as many rules and regulations to worry about.

The owner is also responsible for all debts of the business, which does leave their personal assets at risk of repossession. And with only one contributing revenue source, it can be very difficult to raise the capital to run a successful business. Hiring a knowledgeable and dependable employee can prove to be a difficult task for a small business, particularly if they can't afford to offer market wage or many opportunities for promotion. The owner is, of course, also responsible for taking care of all tasks, including simple jobs such as cleaning the toilet. And, due to the nature of operating a business, income can be very unstable at times. Not surprisingly, all the problems outlined here can lead to increased stress, and heighten the likelihood of the business owner sustaining stress related injuries.

### **Forming a Partnership**

A partnership is when two or more people join forces, combining their strengths to start a engineering business together. Partnerships require more legwork than sole proprietorships do, but can be worth the effort. The potential partners must meet with a lawyer, who'll create a binding contract between them – and this contract is essential to a successful partnership.

The contract dictates what functions each partner will perform through their role in the business. It outlines the payment situation, as some partnerships do not split profits and

expenses equally. The contract also states what will happen to the business if one partner dies or wants to leave, and indicates whether new members can be added to the partnership. And finally, the contract will also dictate the method of resolution for any disputes that may emerge among the partners in the course of running the business.

Like a sole proprietorship, a partnership can also be fairly simple to set up, even with the extra paperwork and lawyer involvement. Each of the partners receives a certain percentage or agreed upon amount of the companies profits. When several partners are involved, there will usually be many more revenue sources available for the procurement of starting capital. The special skills of each partner should complement each other, which in turn creates a stronger and more successful business. For the most part, the company profits will be shown on each partner's personal tax return, so there's no messing around with complicated tax forms. Partnerships often find it much easier to attract skilled employees than a sole-proprietorship would, as partnerships can offer employees the incentive of achieving their own partnership in the firm, which is particularly popular with lawyers and accountants. And, similar to a sole proprietorship, a partnership is much more flexible than a corporation in terms of rules and regulations.

As is also the case in a sole proprietorship, each partner is liable for the debt that the business accrues. Most business plans are establish with the agreement of all partners, which can also cause problems, as disagreements between partners can often occur. Not all employee benefits are tax deductible, and the partnership may have a limited life (as either partner may quit or die at an unknown time), unless the contract includes provisions for this situation.

A partnership is much less flexible than a sole proprietorship, but can suffer the same instability when it comes to income and cash flow. If the business's partners don't get along, or have complementary skills, they could again experience major problems. And if one partner doesn't fulfill their part of the partnership agreement, the contract can be difficult for the other partner (or partners) to sever, even given specific clauses that may have been written into the contract for just such a situation. Stress is also common in partnerships, as not only do the partners have to worry about the business itself, but they must also nurture good working relationships with the other partners.

While a general partnership provides no liability protection and limited investment opportunities, it is easy to create and involves simple tax reporting. Each partner's taxes are based on their own tax levels. All partners must reach an agreement about the percentage each partner holds in ownership as well as what roles each will have in the business. A lawyer is usually involved in a partnership agreement.

### **Limited Liability Corporation**

A limited liability company (LLC) could be an individual, a partnership, or a corporation and is often thought of as being halfway between a corporation and a partnership. The

company does not hold a member liable, just like a corporation, but also allows for pass-through taxation and a less rigid structure of operating than a corporation does.

Most states have in the past required a limited liability company to have at least two members. That has changed; however, as most states today now allow sole owner limited liability companies due to changes in IRS regulations. Rules regarding partnerships and corporations are ever-changing.

Developers often create a LLC on each project in order to risk to the main corporation. Engineering companies can also sit-up the business structure by creating a LLC for each of their major Departments (Landscape and Parks, Surveying, and Land Development). Each LLC is a subsidiary of the parent corporation. Again this is to reduce the risk of law suits on the primary business.

### **Incorporating a Business**

A corporation refers to a business started by more than one person that seeks to sell shares to investors. A partnership also has more than one owner and both profits and liability are shared. The main difference between a sole proprietor or partnership and a corporation is liability and taxes.

A corporation is considered its own unique entity. It functions and has rights and privileges, somewhat like a person. A corporation can sue others in court, and be sued by others in court; can enter into, and be bound by, contracts. A corporation has the ability to borrow money from creditors, and even the government. Any corporation is required to hold a business license in its own name, and must pay taxes.

The liability of each member is protected in a corporation as personal risk is limited by the investment. A partnership, like a sole proprietorship, does not offer limited liability protection. A limited liability partnership, however, has more than one partner who is licensed in a business such as an accountant or lawyer.

Incorporating a business also promotes the existence of a company. For example, the founder of the fast-food chain dies. Since the business is a corporation, it will remain open and continue to grow. Had it been a partnership or sole proprietorship, it might have folded on the death of the founder.

Unlike partnerships and sole proprietorships, corporations face limited liability, which means that the owners (called shareholders) are not held financially responsible for the debts of the business. However, this does not mean that the shareholder is completely “off the hook”, so to speak. The shareholder is still responsible for the number of stocks they own, so in some cases, the shareholder could very well lose their whole investment if these funds are needed, for example, to pay creditors.

Corporations can also enjoy great tax advantages, but these will depend on where the corporation is located. Your local accountant or tax lawyer will have more information regarding this.

Additional funds and capital can be easily gained in a corporation, as shareholders can simply sell off additional stock, and this use of stocks to represent (to some degree) a person's power within the business also allows company ownership to be easily transferred. Lastly, the corporation's Board of Directors can contribute considerable knowledge in many areas, and this is usually extremely beneficial to the corporation's overall success.

Corporations are much harder to set up than other types of businesses outlined here. Many government laws and regulations must be met, and because of this, a corporation usually requires more time and money than the other forms of business to set up. In some cases, instead of tax advantages, the business may actually face tax disadvantages through incorporation, and the business's minority shareholders can be exploited if their knowledge and experience isn't valued by majority stockholders.

Now that you've got the skinny on setting up the proper business, get out there and do it! Make the calls, meet the lawyers, complete the paperwork, and put your college education and experience to work.

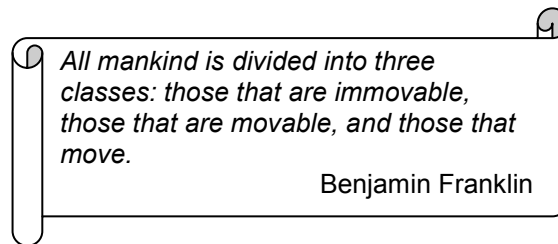
### **C-Corporation**

A C-Corporation is a for-profit, state corporation. The corporation is taxed and pays taxes separate from its shareholders. The shareholders have ownership of the corporation and elect the Board of Directors. Double taxation can occur in a C-Corporation as a corporation must pay taxes on its profits as well as pay taxes again when the profits are paid out as dividends. However, double taxation is sometimes avoided by paying shareholders salaries with fringe benefits rather than dividends.

### **S-Corporation**

An S-Corporation is a C-Corporation that receives "S-Corporation Status" after filing a 2553 IRS form. S-Corporations are taxed in a pass-through manner rather than as a regular corporation taxed on its own basis. The pass-through taxation allows the shareholders to pay taxes like members in a partnership. The shareholders report the S-Corporation's profit or loss on their individual tax returns. Some states may require an additional filing form for "S-Corporation Status" along with the federal 2553 form.

## Business Model



Separate from a Business Plan is a Business Model, which are nothing more than a description of the means and methods the firm will employ to earn revenues projected by the Business Plan. The model represents the business as a system of a series of steps (actions) to generate revenue and make a profit. The model includes the components and functions of the business, as well as the revenues it will generate and the expenses it incurs. The traditional Civil Engineering business model is as simple as the engineering company and the customers within a key market like Land Development. Figure 1 graphically shows the basic model for engineering.

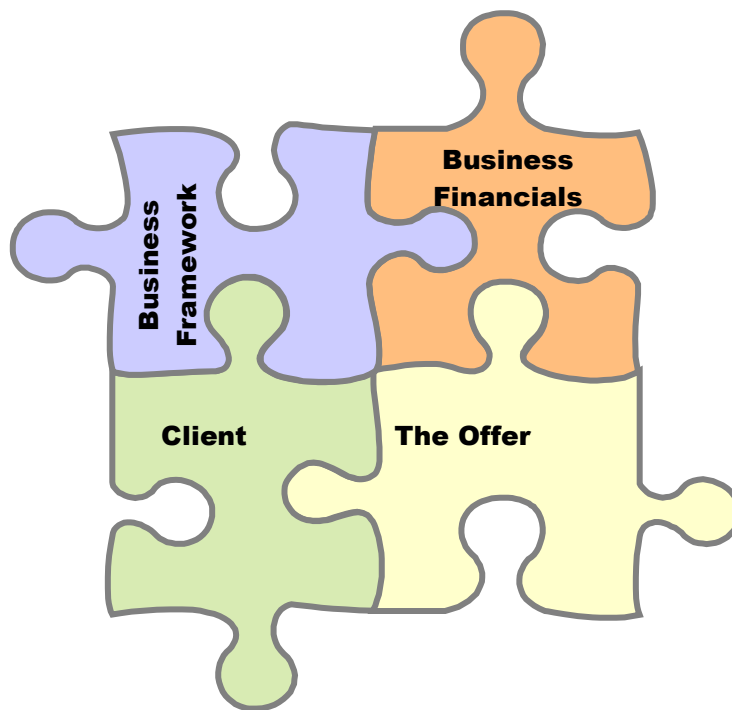


Figure 1 – Basic Engineering Business Model

The business can be further broken down to the key components.

Business Framework:

Key Resources – What are the company’s capabilities necessary to make the business model possible?

Key Activities – What are the company’s activities necessary to implement the business model?

Key Partners – What company partners are motivated to participate in the business model?

Client:

Segment(s) of Clients – What is (are) the targeted audience for the company’s products and services?

Communication and Distribution Channels (Marketing) – What are the means the company will utilize to reach the customer and offer them those products and services?

Client Relationship – What are the processes the company will establish to maintain its relationship with the clients?

Business Financials:

Revenue Streams – What the company’s sources that will generate funds to support the business model?

Cost Structure – What costs will result from engaging in the business model?

Value Proposition (The Offer):

What are the company’s products and services being offered to the market?

Now the business looks more like Figure 2. The business resources of technical staff and equipment complemented by business partners are able to offer a wide range of products and services with a particular billing rate to potential and existing clients, which are obtained through on-going marketing efforts of the company’s staff with an ultimate goal of presenting a proposal and an agreement between the client and the business to provide certain services and products for revenues.

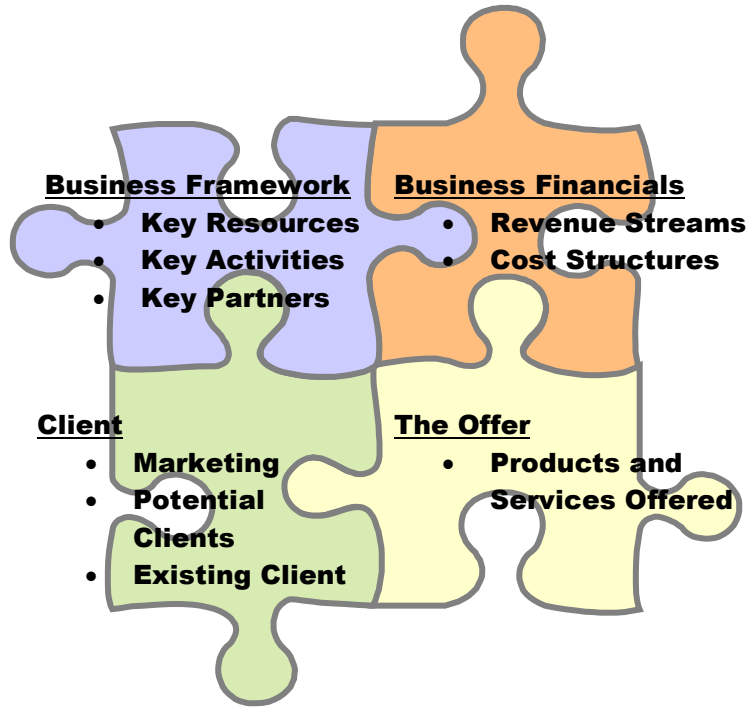


Figure 2 – Detailed Engineering Business Model

These steps or stages can be grouped into categories; the Business Infrastructure, Financial Strategies, Clients, and the Offer or Proposition (see Figure 3).

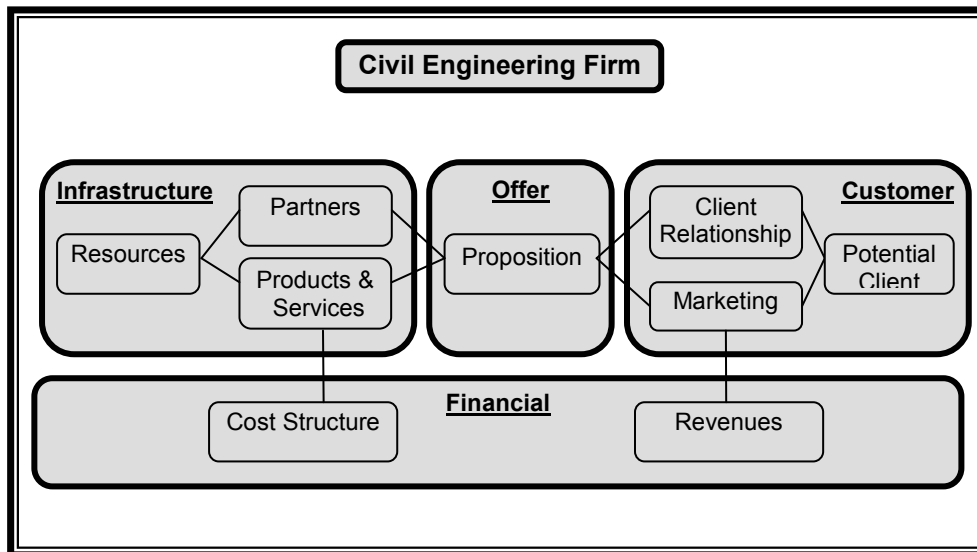


Figure 3 – Engineering Business Model with Categories

Each of the four areas are covered in greater detail at our website [www.engineeringbusinesspubs.com](http://www.engineeringbusinesspubs.com) . For now it is easier to understand that in order to get to the end result, revenues, each of these four areas must be operating at the best level of efficiency in order to obtain the most revenues. Failure in any step will either reduce the amount of revenue or completely run your business out of business.

It would be difficult to provide services or products to your clients if the resources necessary were inadequate. Imagine if your firm was contracted to provide a Technical Drainage Study for a 200 acre site, but you were not capable of analyzing a proposed open channel using any of the available commercial software. You then have to sub-contract this work out, hopefully to one of your partner companies, to assist you in this area of expertise. Otherwise, you will not be able to provide the service you were contacted to perform.

The same is true if your firm has all of the necessary engineering design expertise it requires and has also contracted with other sub-consultant to provide surveying services, but you have no marketing expertise. Although there are a number of needy clients in your local market, you have no way of contacting them nor do you even know how to identify your potential clients. The chain is broken because there is no way for you to contract with clients to provide the services you have available. Of course, no clients means no revenues, and no revenues mean no business.

Even if you have an excellent infrastructure and business partners, and you have a huge pipeline of clients that you obtained through marketing, all will be for not if your proposals do not provide your clients with the necessary services they need at a fair price.

This guide has provided detailed information on how to put together an Engineering Business Plan. If you have not already done so, it's now time to spend the time to either put together your first business plan or update an existing one. Once completed, the plan is a resource with a great deal of information. It will make you well of aware of competition, the market, and your company's capabilities. Updating the plan regularly will keep you well informed on what is happening in your business.

## About the Author

Joe Alvin Haun, PE, MSE

Joe Haun is a highly experienced Civil Engineer, author, public speaker, and business advisor who have worked in the engineering profession since 1983.

Mr. Haun's early career was in the United States Air Force as an Engineer Assistant. A Desert Storm veteran he has a unique perspective of the Middle East.

Mr. Haun graduated from the University of Las Vegas, Nevada in 1994 with a BS degree in Civil Engineering and in 1995 with a MSE in Civil and Environmental Engineering.

Mr. Haun worked with several engineering firms in the Las Vegas valley until February 2005 when open his own engineering company HAUNTEC, which has grown to a designing multi-million dollar projects in Nevada and Utah and in the countries of Iraq and Costa Rica. Review his growing company's website at [www.haunteceng.com](http://www.haunteceng.com) to see the firm's latest capabilities.

Mr. Haun has published articles in engineering magazines and has given speeches on water resources, and is currently working on several articles on permeable pavements.

In 2009, Mr. Haun started Engineering Business Seminars and Publications to. His first publication is the "Engineering Business Success." He has created many self-study engineering business seminars for Professional Development Hours credits. Visit the web-site [www.engineeringbusinesspubs.com](http://www.engineeringbusinesspubs.com) to review the latest seminars and publications.

## Recommended Reading List

Engineers are constantly learning about new techniques, products and design methods. Improving your skills as a business leader is no different. Reading books is one of the best ways to improve your skills. Below is a list of books we recommend.

- *Engineering Business Success* by Joe A Haun (book)
  - *Engineering Business Plan* by Joe A Haun (seminar)
  - *Engineering Marketing Strategies* by Joe A Haun (seminar)
  - *Engineering Operations Strategies* by Joe A Haun (seminar)
  - *Engineering Financial Strategies* by Joe A Haun (seminar)
  - *Engineering Proposal Strategies* by Joe A Haun (seminar)
  - *Engineering Joint Venture Strategies* by Joe A Haun (seminar)
  - *7 Habits of Highly Effective People* by Steven Covey
  - *First Things First* by Steven Covey
  - *Awaken the Giant Within* by Anthony Robbins
  - *Unlimited Power* by Anthony Robbins
  - *The E-Myth Revisited* by Michael E. Gerber
  - *Get Clients Now* by C. J. Hayden
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