

Strategic Business Plan

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- Reasons for taking this course: This course is highly recommended by Rushmore and I look forward to learning more about business plans from one of the experts.

Executive Summary

I included this course in my curriculum from the very beginning of my studies at Rushmore. Not only was it a highly recommended course by Dr. Cox, but also learning how to create a strategic business plan from Professor Lee E. Hargrave, Jr. was of great interest to me. I consider his book, *Plan for Profitability!*, to be one of the most straightforward and instructional books on this subject compared to others that I reviewed during my research.

Professor Hargrave's book is based on his practical experience that includes writing over one hundred business plans for large and small companies. His business plan experience started while working at General Electric, when, in the early 1970s, the concept of strategic business planning was initiated company-wide. His business planning experience has helped him in leading many business start-ups, acquisitions and divestitures during his career. Since 1991, Professor Hargrave has been the Principal of the Hargrave Consultancy, www.hargrave.com.

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1 Introduction

Objective - My objective for this paper is twofold:

1. To document what I have learned about preparing a strategic business plan for future use in my career.
2. To apply what I have learned in creating the elements of a plan for a theoretical business, Schmidt Design and Engineering Services, including the financial projections.

What is Strategic Planning?

Strategic planning is essential to all businesses – large or small. Initially, it may seem less important for a small company, but as a small company grows in revenue and employee numbers, it will not sustain growth and be successful without a plan. Lee E. Hargrave, Jr. defines strategic planning as “the process of determining the most appropriate direction for the evolution of a company’s business and identifying those steps that must be taken in the near term to initiate (or continue) the evolution.”¹ The key word is ‘process.’ The strategic planning process starts with thinking about the company or SBU² from an all-encompassing perspective. Broad questions about the company’s existence need to be answered – why does it do what it does? Would it be more profitable doing something else? What customer need does it serve? What opportunities exist in the marketplace? What are the threats to the long-term existence of the business?

What is a Strategic Business Plan?

The strategic business plan is developed as a result of the initial planning process. It is often called by other names, such as business plan, forward plan or long-range plan. For this paper, I will use *strategic plan*. The strategic plan defines the company’s business and serves as its résumé. It gives investors, suppliers, customers and employees insight into the company’s mission, direction and how it plans to achieve its goals.

¹ Hargrave, Lee E., *Plan for Profitability!*. P. 4.

² Note that Mr. Hargrave explains the term SBU (Strategic Business Unit) as logical businesses within one company, each having specific markets and products/services. These can be viewed as freestanding businesses in which separate strategic plans can be developed. Small companies, including SDES, typically are single SBU’s.

Why Create a Strategic Plan?

- Financing or selling a company cannot be achieved without one.
- For management to take an objective look at the entire operation.
- A company can anticipate change and identify problems more quickly than without one.
- It helps the company make good business decisions.
- A company will be more successful with one.

James K. Hinkel writes, “Without a strategic plan, you have no idea whether you’re spending your money effectively or not.”³ His book, *The Cost-Effective Organization*, focuses on cost control, which is a never-ending, long-term commitment for successful companies. He emphasizes that a company must share its strategic plan with its employees, including its financial goals, for their understanding and commitment to cost control.

2 Structure of the Strategic Plan

Mr. Hargrave explains that there is a difference between a strategic plan and an operations plan. One major difference is in the time span to which the plans pertain. The strategic plan generally covers a three to ten year time period, whereas the operations plan typically deals with a period of one fiscal year. The strategic plan should be created before the operations plan because the operations plan should be the detailed plan of the first year of the strategic plan.

2.1 Approach to the Strategic Plan

The approach to creating the strategic plan is a four-step process:⁴

1. Assessment and identification of the issues that face the company.
2. Preparation and issuance of guidelines for preparing the plan.
3. The actual preparation of the plan.
4. Internal review and approval.

The assessment step begins the strategic planning process by addressing and answering broad questions about the company as a whole. This serves as the foundation for establishing the guidelines for preparing the detailed plan, which addresses eleven key elements. Mr. Hargrave

³ Hinkel, James K., *The Cost-Effective Organization*, P. 122-140.

⁴ Hargrave, Lee E., *Plan for Profitability!*. P. 22-24.

emphasizes that creating the strategic plan is an iterative process – as each element is completed, previous elements are reviewed and adjusted to conform to what has followed.

2.2 Major Elements of the Strategic Plan

Mr. Hargrave's book explains the eleven elements of the strategic business plan. These eleven elements will serve as the basis for this paper and for my project – Schmidt Design and Engineering Services (SDES). The elements are:⁵

1. Mission
2. Market
3. Competition
4. Self-evaluation
5. Opportunities and Threats
6. Objectives
7. Strategies
8. Programs
9. Goals
10. Resources
11. Financials

The flow diagram of these eleven elements has been recreated from Mr. Hargrave's book and is shown in [Appendix A](#).

2.2.1 Mission

The mission of the company is one of the most difficult to create of all the elements of the strategic plan. It should capture the value structure of the owner/CEO and his/her assessment of the values of the customers, stakeholders and employees. The mission is the foundation upon which the other elements of the strategic plan are established.

Mr. Hargrave finds it helpful to answer the following questions for facilitating the mission:

1. What are the present characteristics of the business?
2. What differentiates the business from its competitors?
3. What would we like to see the business become in the future?

I created the following mission for SDES using the above questions as my guide:

⁵ Hargrave, Lee E., *Plan for Profitability*. P.27-29.

Mission

Schmidt Design and Engineering Services (SDES) provides the highest quality design and engineering support to its clients in the aerospace industry. Use of the latest technology in computer hardware and software through yearly reinvestment of company profits, on-going employee training, and hiring and retaining highly experienced employees, makes SDES a recognized leader in the industry. SDES will continue to provide value-added services to its aerospace clients through its ability to handle larger and more complex projects and expand its services outside the local market to its client's regional locations.

2.2.2 Market

The second step in developing a strategic plan is to define and quantify the market in which the company operates or desires to operate. Successful companies understand and stay abreast of the market(s) in which they serve. The mission can reveal market information – not only by stating what market(s) are targeted but, equally importantly, by what markets are not stated. For instance, SDES' mission states that it serves the aerospace market. This assumes that SDES does not operate in or does not target the automotive or pharmaceutical markets that are prevalent in its geographic location.

The *market segment* should be defined – by geography, channel of distribution, product features or characteristics, product or service use and customer characteristics. For example:

SDES' geographic area of business is within a 50-mile radius of Indianapolis, IN. This area is within a one-day driving distance to ensure that the company representative can meet personally with the customer. Release of projects to SDES and distribution of completed work back to the customer is easily accomplished within the specified geographic area. The small geographical market area makes it easy to both deliver completed projects and meet customers' desire for available and easy communication with suppliers for outsourced design and engineering services.

Quantifying the market is the next step. This is usually expressed in *units* or *dollars*. In the case of SDES, its customers relate design and engineering services in terms of project hours, which directly computes to cost (dollars). As Mr. Hargrave suggests, the strategic plan for SDES will use current dollars, not constant dollars. Current dollars represent the dollar value for each year of the plan, which compensates for estimated yearly inflation – assumed to be 2.2%.

Market measurements are expressed in size and rate of growth. Market size is a relative term, and can be difficult to quantify in the absence of published data. SDES' targeted customers do not

make their yearly dollar volume for outsourced work known to the public. I estimated the market size using my familiarity and knowledge of the customer base and competitors, and using public information regarding contracts received and industry forecasts. See [Appendix B](#). The growth indicators for SDES' customers are estimated to be an average of 3% per year.

2.2.3 Competition

The market and competition sections of the strategic plan are referred to as the *uncontrollable environment* – that part of the company's environment over which it has no control. A company cannot control its competitors but, by understanding as much as possible about them, strategies can be developed to defend against them. The first step in evaluating the competition is to identify the key competitors in the company's served market. Next, quantify the competitor's current and historical market share. SDES' competitors' prior years market share could not be adequately estimated, and is not presented.

An important step in assessing the competitors is to develop an objective list of their strengths and weaknesses. Next, conceptualize the strategies that the competitors are expected to follow based on their strengths and weaknesses.

All but one of SDES' known competitors are privately owned companies. Their strengths and weaknesses were derived from my personal knowledge about them and input from associates who are past employees of those companies. Other sources of competitive intelligence can be obtained from local business news and journals, job fairs, company websites, marketing materials, customers, and from direct contact with competitors.

Mr. Hargrave recommends that the strengths and weaknesses of competitors be limited to a manageable number and similar in nature to create a comparative evaluation. He suggests the following checklist of significant areas of comparison (see [Appendix C](#) for an expanded list):⁶

1. Market share
2. Image
3. Product
4. Marketing
5. Engineering
6. Manufacturing
7. Finance
8. Management

⁶ Hargrave, Lee E., *Plan For Profitability!*, p.88-89.

2.2.4 Self-Evaluation

The last part of the environmental segment of the strategic plan is the *controllable environment* of the company itself. Analysis of the company's market share, strengths and weaknesses is approached in the same manner as for the analysis of the competitors. The evaluations of SDES' and its competitor's strengths and weaknesses, and probable strategies, are documented in [Appendix D](#).

2.2.5 Opportunities and Threats

Opportunities and threats are evaluated in terms of *favorable* and *unfavorable* interactions between the *controllable* and *uncontrollable* environments identified to this point in the plan.

Favorable trends (opportunities) for SDES are a growing served market and customer employee reductions that promote the outsourcing of design and engineering work. Employee reductions also create a favorable pool of talented resources. Long-term and sustained market growth is questionable and could be considered an unfavorable or neutral trend. SDES, being a startup company, is in an unfavorable position (threat) in the short term compared to its competitors that have a favorable position with the customers. Short-term success is necessary for SDES to achieve its long-term goals for market share growth.

2.2.6 Objectives, Strategies, Programs and Goals

Once the opportunities and threats have been identified, the next step in the strategic planning process is to determine actions that will capitalize on the opportunities and counter the threats. This is accomplished through developing the objectives, strategies, programs and goals, which Mr. Hargrave defines as:⁷

- **Objectives** are broad, general statements of what the company wants to accomplish.
- **Strategies** are broad statements of how the company intends to pursue its objectives.
- **Programs** are specific activities that are organized to implement the various elements of strategy.
- **Goals** are those measures by which the company intends to monitor its progress in the execution of its programs.

Mr. Hargrave presents the concept called *The Principle of Linkages*. This is an organized approach to determine the objectives, strategies, programs and goals. The basic flow for this process is:

⁷ Hargrave, Lee E., *Plan For Profitability!*, p.147-152.

1. Objectives are listed (linked) for each opportunity and threat.
2. The objectives are reviewed and redundant objectives are eliminated.
3. Strategies are linked for each remaining objective.
4. The strategies are reviewed and redundant strategies are eliminated.
5. Programs are linked for each remaining strategy.
6. The programs are reviewed and redundant programs are eliminated.
7. Goals are linked for each remaining program.
8. The goals are reviewed and redundant goals are eliminated.

This process results in at least one clear path from one opportunity or threat, through one strategy and program, and to at least one goal. This concept is shown as a decision tree that has been recreated from Mr. Hargrave's book in [Appendix E](#). The *Principle of Linkages* was used in arriving at the goals for SDES.

2.2.7 Resources

The resources necessary to execute the strategic plan for an existing company include those resources required for sustaining existing operations and incremental resources necessary to implement the company's strategy. For new, start-up companies, like SDES, resources are identified to implement the company's strategies and goals. Resources consist of personnel, facilities and equipment – the most important being personnel.

Cost for personnel represents a major portion of a company's operating cost. This cost can be as high as 33% of revenues for a manufacturing company, and can be over 75% for a service company – approximately 62 % for SDES. Personnel cost includes salaries and benefits.

Facilities include land and buildings (plant). Calculating the average floor space per employee performs a test for adequate plant space projections. For light industrial operations, 200 to 250 square feet per employee is a good rule of thumb. The facilities required for SDES accounts for personnel growth over the span of the strategic plan to a maximum of 30 employees.

Equipment resources can include common office items, such as furniture, computers, printers and copiers. For a manufacturing company, it can include automated assembly lines, robots and lift trucks – to name a few. Companies will designate certain items that are purchased to be capital equipment, and will depreciate them over time. SDES will purchase computer software and furniture, and will lease the computers, copiers and other office equipment. See [Appendix F](#) for SDES' resources information.

2.2.8 Financials

The final element of the strategic plan is to develop the financial projections. These projections will use the previous data from the plan to quantify the company's revenue performance. It will answer basic questions, such as:

1. What revenue and profits can be expected from the strategic plan?
2. How will funds be generated and used?
3. What sort of balance sheets can be expected?
4. Will cash flow support projected growth?

Revenue and resource cost are elements of the operating (income) statement, so this is the natural starting point of the financials. I will not present an explanation for the three financial statements – these were studied and presented in my paper, 2053 Siegel on Finance, which can be accessed at <http://www.michaelschmidt.com/2053%20finance%20final.pdf>.

Mr. Hargrave shows the interaction between the operating statement and balance sheet in flowchart form, which I have recreated for my future reference (see [Appendix G](#)). The financials for SDES were created using the guidelines in Mr. Hargrave's book, including the interaction between the operating, balance sheet and funds flow statements (see [Appendix H](#)).

3 Evaluating the Plan

Once the strategic plan is completed, there are tests that can be used to evaluate the plan. Mr. Hargrave recommends looking at trends – he refers to this as *Hargrave's Law*.⁸ It emphasizes that unfavorable trends will continue unless positive action is taken to reverse the trend, and that positive action is required to sustain a favorable trend. Gross margin is the first test that should be made, which is at the top of our list of tests:

- Gross Margin
- ROS (Return on Sales)
- ROE (Return on Shareholders' Equity)
- ROI (Return on Investment)
- EPS (Earnings Per Share)
- Debt to Equity ratio
- Facility space per employee
- Inventory Turns

⁸ Hargrave, Lee E., *Plan for Profitability!*, p.217.

- Days Receivables
- Days Payables
- G&A % of Revenues

The tests for SDES do not include ROE, ROI, EPS, Debt to Equity Ratio and Inventory Turns. The tests made for SDES shown in [Appendix J](#).

4 Special considerations for a Service Business

Rhonda M. Abrams, in her book *The Successful Business Plan: Secrets & Strategies*, wrote several chapters about considerations for specific types of companies – retailers, manufacturers and service businesses.

Quality Judgment – many service businesses sell an intangible product, which places the determination of the quality of service in the eyes of the recipient. My experience in a service industry gives importance to considering some loss of revenue in the financial projections. The SDES revenue projections are calculated at 95% of hours worked.

Individual Quality – in many cases, the individual performing the service is the most important factor in customer satisfaction. The company's reputation might be excellent, but the customer's interaction with that one individual determines the overall customer experience with that company.

Time – most service businesses sell their time, which is a fragile product. Without the advantage of long-term contracts, if time is not 'booked' the revenue it represents is lost. Also, the labor wages and benefits continue to be paid during this time. SDES accounts for this in the 95% calculation for effective revenue.

Speed – customer demand for speed of service is increasing. Customers do not want to wait.

Integration – customers want the convenience of multiple services from one provider. Even in the technical services industry, companies desire 'one-stop shopping.' This reduces their cost through fewer number of suppliers, purchase orders and associated internal costs. Smart and thorough strategic planning is required before committing your company to provide additional services.

5 Schmidt Design and Engineering Services Project

My project for this course was chosen based on past work experience. The operations manager positions which I have held included managing design and engineering services. These services were provided to customers in the aerospace and automotive industries that outsource work on a regular basis.

SDES is a new start-up that will compete with a small number of companies providing similar services in the Indianapolis, Indiana area. Start-up financing is needed for purchasing computer aided design software, leasing computer hardware and funding the initial employee payroll. Funding will come from owner's investment of \$50,000 and a \$150,000 bank loan. This type of service business recognizes revenue as it is performed, which creates a time lag for accounts receivable. Assumptions:

- Days Receivables = 60 days
- Days Payables = 30 days

Other pertinent assumptions:

- Personnel will be hired from the available pool of resources that have experience in this work and competence with the required computer-aided design software. Therefore, no initial training will be required.
- The owner will do sales and customer development until such time that growth allows for hiring a dedicated sales person.
- Project cost, tracking, billing, contracts and accounts payable will be handled by the owner until such time that growth allows for hiring an administrative person.
- Payroll will be handled by a third-party service.
- Bank loan at 12% interest with a principal balloon payment at end of 2nd year.
- Customer commitment and contracts for work are assumed to be in place prior to start of business.

Full data for SDES is accessed in:



Financials_Schmidt_C
ompany.xls

6 Conclusion

I am satisfied with the extent of learning that was gained in doing this course, and I have achieved the objective that I set for myself in the [introduction](#) of this paper. The information presented in Mr. Hargrave's book was invaluable in understanding the key elements for a strategic business plan. I could have spent twice the time I did in documenting the elements in more detail. I completed the details for my theoretical company, SDES, that are included in the appendix, and this work could easily be copied and organized into a formal strategic plan for presentation.

7 Citations

Books

Hargrave, Jr., Lee E., *Plan For Profitability – How to Write a Strategic Business Plan*. Florida: Four Seasons Publishers, 1999.

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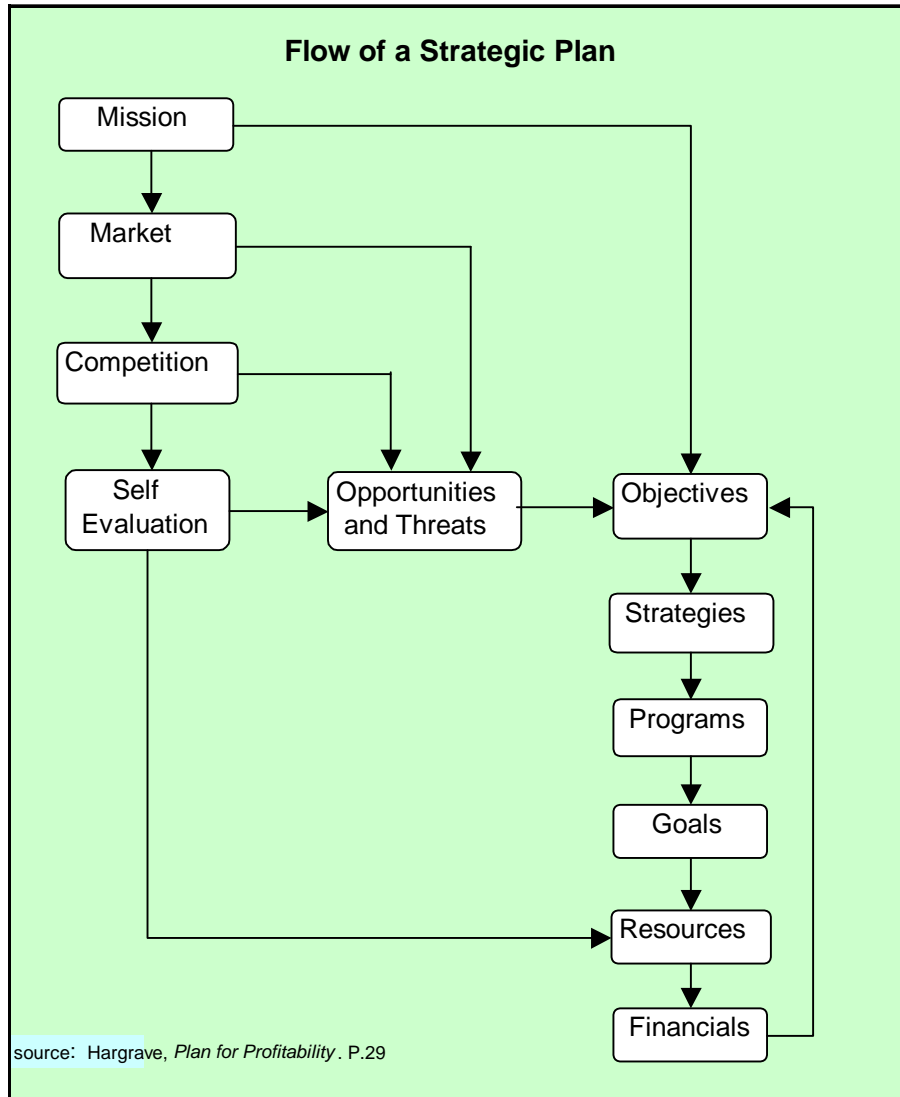
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Appendixes

Appendix A



Appendix B

Indianapolis-Area Aerospace Market for Outsourced Work						
Company	Total Co. Revenue (millions)	Total Employees	Total Indiana Employees	Last 1-Yr Employee Growth	Total Outsourced* (millions)	Local Outsourced (millions)
Rolls-Royce	\$9,200	39,000	4,400	-9.0%	\$184.0	\$17.65
Raytheon	\$18,100	76,000	1,500	-12.4%	\$289.6	\$5.72
BAE	\$12,900	68,000	1,000	-3.0%	\$154.8	\$2.05
United Technologies(U.S.)	\$14,200	71,000	4,000	31.0%	\$113.6	\$2.56
GE Aircraft Engines (GEAE)	\$11,000	26,000	0	-7.1%	\$88.0	\$0.00
Lockheed Martin	\$22,400	125,000	0	0.0%	\$134.4	\$0.00
Total					\$964.4	\$27.98

* Estimated outsourced design and engineering dollars - not parts or manufacturing

Indianapolis-Area Aerospace Market for Outsourced Work				
Company	Local Outsourced Work* (millions)			
	0(E)	1(F)	2(F)	3(F)
Rolls-Royce	\$17.65	\$18.57	\$19.37	\$19.99
Raytheon	\$5.72	\$6.02	\$6.28	\$6.48
BAE	\$2.05	\$2.16	\$2.25	\$2.32
United Technologies(U.S.)	\$2.56	\$2.69	\$2.81	\$2.90
Total	\$27.98	\$29.43	\$30.70	\$31.68

* Estimated outsourced design and engineering dollars - not parts or manufacturing

Appendix C

Competition Strengths and Weaknesses Checklist

1. Market share
 - a. What is the competitor's current market share?
 - b. Has it been increasing, decreasing or stable?
 - c. In what segments of the market is the competitor strong or weak?

2. Image
 - a. How does the customer perceive the competitor in the market?
 - b. Is this image warranted or outdated?
3. Product
 - a. How do the competitor's product offerings compare vs. others in the market?
 - b. How do the products rate in terms of performance, features, innovation, reliability, serviceability, cost of manufacture, proprietary protection?
4. Marketing
 - a. How does the competitor's method of distribution compare with other companies in the served market?
 - b. What are the breadth, depth and quality of its sales coverage?
 - c. How effective is its advertising?
 - d. Is the competitor's marketing effort an asset or a liability?
5. Engineering
 - a. Is the competitor noted for a strong, innovative engineering team?
 - b. Are there any deficiencies in the skill mix?
 - c. Does the company perform its own research and development?
6. Manufacturing
 - a. To what degree is the competitor vertically integrated?
 - b. What is the split between internal manufacturing and external purchases?
 - c. How modern are their facilities?
 - d. Are they geographically located relative to major markets?
 - e. What are their capacities?
 - f. What is the competitor's intrinsic cost of production?
7. Finance
 - a. What are the competitor's product margins and overall profitability?
 - b. Are inventory, payables and receivables within acceptable norms?
 - c. Do they have adequate capacity for debt and access to capital?
 - d. Is the company a user or a generator of cash?
8. Management
 - a. What are the experience, credibility and dedication of the management team?
 - b. Are there any glaring weaknesses?

Appendix D

The competition of SDES is real and known to me, except for those categorized as ‘other.’ For purposes of confidentiality, I have listed the competition as Company A, Company B, etc. I have analyzed their strengths and weaknesses based, as much as possible, on my personal knowledge.

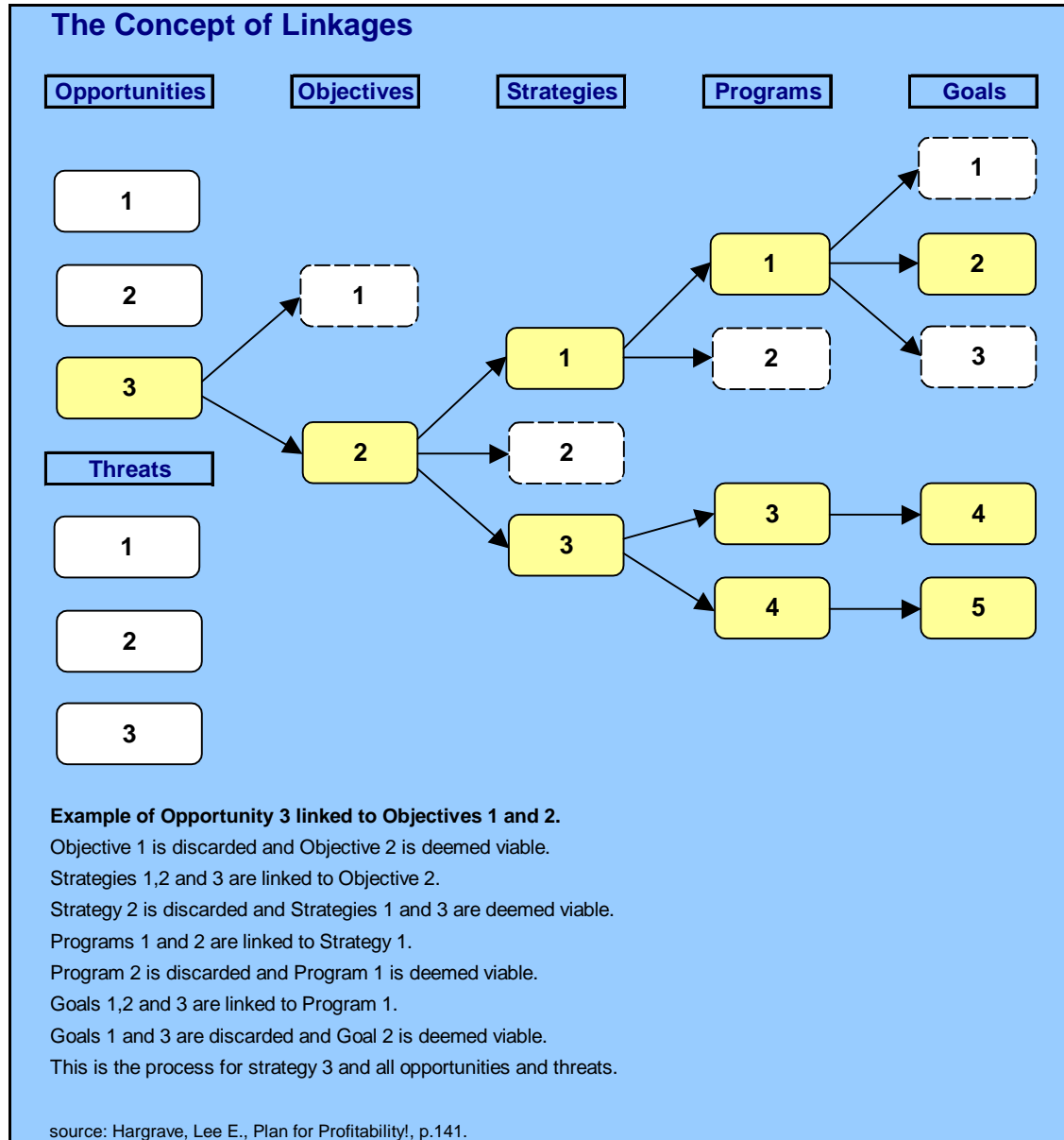
Company A	
Strengths	Weaknesses
<ul style="list-style-type: none"> • Acceptable product/service quality • Stable financial position • Management is experienced in local market • 20% local market share • Diversified customer base 	<ul style="list-style-type: none"> • Decreasing local market share • Sales efforts in other markets for diversification • Limited engineering capability and emphasis on design side of business • No vision for growth in local aerospace market • Moderate-High billing rate
Strategies <ul style="list-style-type: none"> • Maintain present aerospace content • Maintain present billing rate for acceptable margin on local aerospace customer work • Continue focus on growing business in non-aerospace industries 	

Company B	
Strengths	Weaknesses
<ul style="list-style-type: none"> • Favorable and long relationship with 2 major local customers • Good product/service quality • Large company backing – very profitable • Management is experienced in local market • 40% local market share • Contract employees onsite at customer • Have program manager dedicated to each major customer. 	<ul style="list-style-type: none"> • Employee turnover problems • Slow in responding to customer issues • Highest billing rates in local market • Heavily focused on one major customer
Strategies <ul style="list-style-type: none"> • Improve customer response in solving issues and timely implementation • Improve quality to reduce write-offs • Hire more experienced employees to improve capability and quality • Increase services offering in addition to product design and engineering • Continue to focus on growing business in non-aerospace industries 	

Company C	
Strengths	Weaknesses
<ul style="list-style-type: none"> • Favorable customer image of company due to long relationship • Good product/service quality • Management is experienced in local market • 15% local market share • Favorable billing rate and lowest of companies A,B, and C. 	<ul style="list-style-type: none"> • Small operation – limited capacity • Management has no vision for growth • Profitable but vulnerable to reductions in outsourced work from customer and employee turnover • Limited sales effort • Limited engineering capability • Some employee turnover problems
Strategies <ul style="list-style-type: none"> • Owner looking for strong manager to take over operations to re-focus company • More aggressive sales effort to increase workload • Hire more experienced employees to improve capability • Long term goal of increasing engineering capability 	

SDES	
Strengths	Weaknesses
<ul style="list-style-type: none"> • Strong plan for marketing and selling to local market • Strong plan for ensuring high quality • Management is experienced in local market for design and engineering services • Management has good reputation in local market • Innovative thinking 	<ul style="list-style-type: none"> • Start-up operation <ul style="list-style-type: none"> ○ Needs to prove itself to customers ○ Vulnerable to unexpected downturn in customer outsourced business ○ Employees not cohesive group during first year ○ No name recognition in market ○ Limited manpower for administrative and support functions
<p>Strategies</p> <ul style="list-style-type: none"> • Focus on two local customers to maximize first two years of operation success. Subsequent years will expand service to these customers at their distant locations. • Manager to aggressively sell and build relationship with customers • Implement strict policies and procedures for project flow and documentation to ensure quality of work – most important for initial projects that are done to gain credibility • Hire experienced employees with strong project management skills • Establish competitive bill rate advantage with volume pricing proposal to customers • Long term goal of increasing engineering services that include FEA modeling and analysis, electrical controls technical publications 	
<p>Programs</p> <ul style="list-style-type: none"> • Establish customer confidence for continuous increase in work • Manager to develop new relationships within two major customers • Be profitable at the net income line at the end of the 1st year • Increase market share • Propose volume discount to major customer for long term revenue/market share growth 	
<p>Goals</p> <ul style="list-style-type: none"> • Increase revenues by 60% to 100% per year • Increase market share to 2.5% - 1st year, 5.0% - 2nd year and 10% - 3rd year • Increase number of employees to 8 - 1st year, 15 - 2nd year and 25 - 3rd year • Hire program manager in 2nd year • Hire full time sales person in 3rd year 	

Appendix E



Appendix F

Resources

1st Year

Year 1		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Direct Labor														
	Pay Rate													
		Headcount												
Sr. Design Engineer	\$34.00	1	1	1	1	1	1	1	1	1	1	1	1	1
Sr. Designer/Checker	\$31.00	2	2	2	2	2	2	2	2	2	2	2	3	3
Designer	\$28.00	1	1	1	1	1	1	1	2	2	2	2	2	2
Detailer	\$24.00					1	1	1	1	1	1	2	2	
Avg. Direct Labor Pay		\$31.00	\$31.00	\$31.00	\$31.00	\$29.60	\$29.60	\$29.60	\$29.33	\$29.33	\$29.33	\$28.88	\$28.88	
Indirect Labor														
	Yrly Salary													
Owner-Manager	\$54,000	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$54,000
Admin	\$24,000						\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$14,000
Total Indirect Labor Pay		\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$6,500	\$6,500	\$6,500	\$6,500	\$6,500	\$6,500	\$6,500	\$68,000

2nd Year

Direct Labor														
	Pay Rate													
		Headcount												
Sr. Design Engineer	\$34.00	1	1	1	2	2	2	3	3	3	4	4	4	4
Sr. Designer/Checker	\$31.00	3	3	3	3	3	3	4	4	4	5	5	5	5
Designer	\$28.00	2	2	2	3	3	3	3	3	3	3	3	3	3
Detailer	\$24.00	2	2	2	2	2	2	2	2	2	3	3	3	3
Avg. Direct Labor Pay		\$28.88	\$28.88	\$28.88	\$29.30	\$29.30	\$29.30	\$29.83	\$29.83	\$29.83	\$29.80	\$29.80	\$29.80	\$29.80
Indirect Labor														
	Yrly Salary													
Owner-Manager	\$70,000	\$5,833	\$5,833	\$5,833	\$5,833	\$5,833	\$5,833	\$5,833	\$5,833	\$5,833	\$5,833	\$5,833	\$5,833	\$70,000
Admin	\$24,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,100	\$2,100	\$2,100	\$2,100	\$2,100	\$2,100	\$2,100	\$24,700
Program Manager	\$60,000					\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$40,000
Total Indirect Labor Pay		\$7,833	\$7,833	\$7,833	\$7,833	\$12,833	\$12,933	\$12,933	\$12,933	\$12,933	\$12,933	\$12,933	\$12,933	\$134,700

3rd Year

Direct Labor														
	Pay Rate													
		Headcount												
Sr. Design Engineer	\$34.00	4	5	5	7	7	8	8	8	9	9	9	9	9
Sr. Designer/Checker	\$31.00	5	5	5	6	6	7	7	7	8	8	8	8	8
Designer	\$28.00	3	4	4	4	4	5	5	5	5	5	5	5	5
Detailer	\$24.00	3	3	3	3	3	3	3	3	4	4	4	4	4
Avg. Direct Labor Pay		\$29.80	\$29.94	\$4.41	\$30.40	\$30.40	\$30.48	\$30.48	\$30.48	\$30.38	\$30.38	\$30.38	\$30.38	\$30.38
Indirect Labor														
	Yrly Salary													
Owner-Manager	\$80,000	\$6,667	\$6,667	\$6,667	\$6,667	\$6,667	\$6,667	\$6,667	\$6,667	\$6,667	\$6,667	\$6,667	\$6,667	\$80,000
Admin	\$26,000	\$2,167	\$2,167	\$2,167	\$2,167	\$2,167	\$2,275	\$2,275	\$2,275	\$2,275	\$2,275	\$2,275	\$2,275	\$26,758
Program Manager	\$60,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,200	\$5,200	\$5,200	\$5,200	\$60,800
Sales	\$65,000				\$5,417	\$5,417	\$5,417	\$5,417	\$5,417	\$5,417	\$5,417	\$5,417	\$5,417	\$48,750
Total Indirect Labor Pay		\$13,833	\$13,833	\$13,833	\$19,250	\$19,250	\$19,358	\$19,358	\$19,358	\$19,558	\$19,558	\$19,558	\$19,558	\$216,308

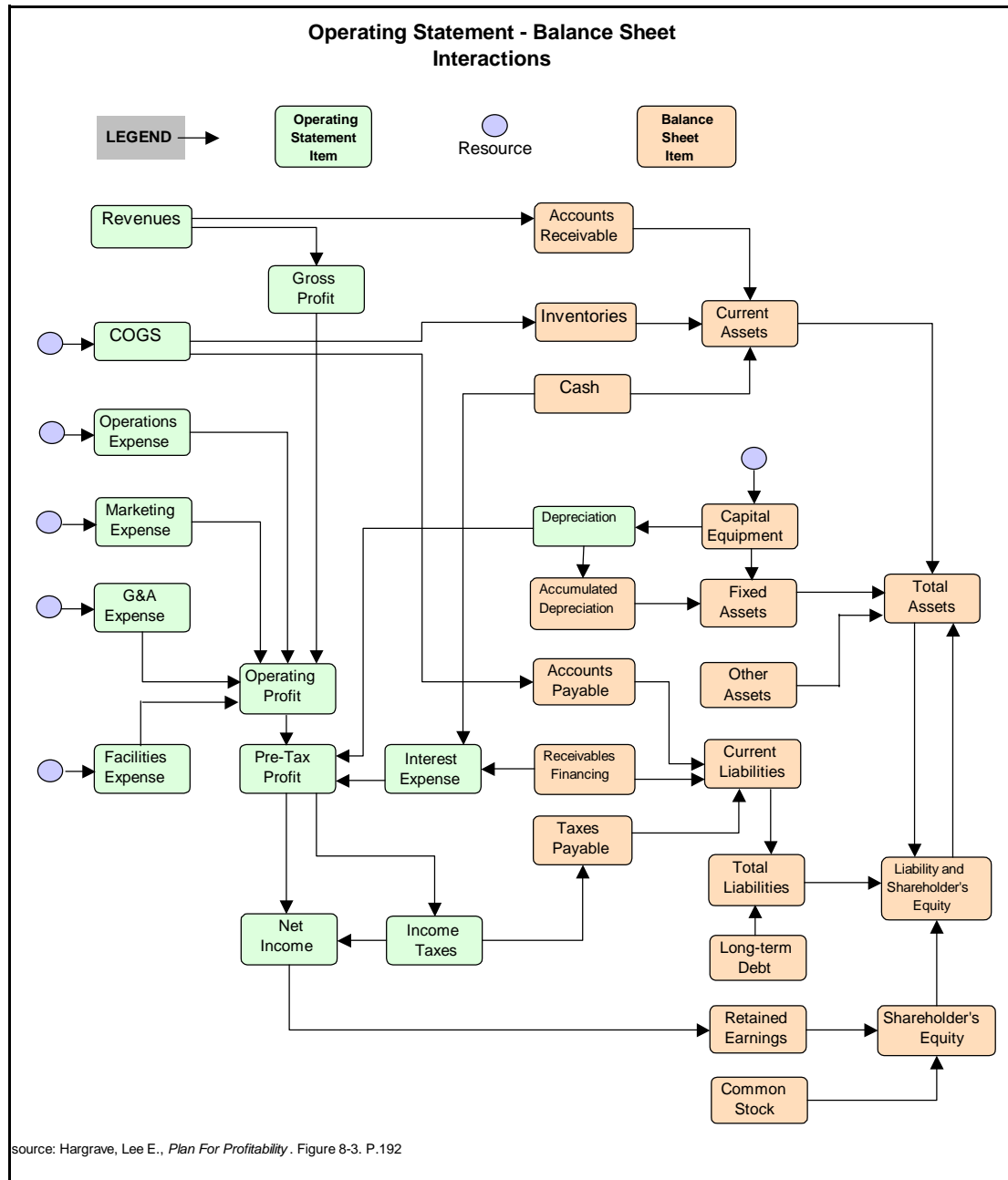
Facilities

Facility Space		Year-1	Year-2	Year-3
30 empl. X 90 sq.ft/empl	2,700			
Common area	1,200			
Offices @3	400			
Total Sq.Ft.	4,300	4,300	4,300	4,300
Lease @ \$6.15 per sq.ft.	\$2,200	\$26,400	\$26,400	\$26,400
	per month			
No. of Employees		10	18	29
Space per Employee (sq.ft.)		430	239	148

Equipment

Equipment	Start-up	Year-1	Year-2	Year-3
Furniture	\$15,000	\$15,000	\$0	\$10,000
Computer Hardware lease		\$22,250	\$39,750	\$71,500
Computer Server & Network	\$10,000	\$10,000	\$0	\$0
Printers and plotter	\$9,000	\$9,000	\$0	\$10,000
Software - CAD and office	\$26,600	\$47,400	\$36,400	\$52,000
Maintenance agreements		\$6,000	\$6,000	\$6,000
Total Equipment	\$60,600	\$109,650	\$82,150	\$149,500

Appendix G



Appendix H

Operating Statement	Start-up Year-1	Yr-1 Total	Yr-2 Total	Yr-3 Total
Revenue		\$674,310	\$1,400,490	\$2,717,988
Cost of Goods Sold		\$415,797	\$854,851	\$1,606,814
Gross Profit		\$258,513	\$545,639	\$1,111,174
Gross Profit % of Rev		38.3%	39.0%	40.9%
General & Administration	\$4,400	\$110,720	\$195,990	\$298,645
G&A % of Rev		16.4%	14.0%	11.0%
Facilities	\$2,000	\$50,060	\$48,860	\$50,280
Equipment	\$60,600	\$109,650	\$82,150	\$149,500
Total Expenses	\$67,000	\$270,430	\$327,000	\$498,425
Operating Profit	(\$67,000)	(\$11,917)	\$375,860	\$548,705
Depreciation		\$13,507	\$19,573	\$33,280
Interest Expense		\$18,000	\$18,000	
Pre-Tax Profit	(\$67,000)	(\$43,424)	\$338,287	\$515,425
Income Taxes		\$0	\$73,716	\$128,856
Net Income		(\$43,424)	\$264,571	\$386,569

Balance Sheet	Year-1	Year-2	Year-3
Cash	\$12,485	\$101,161	\$245,098
Accounts Receivable	\$110,845	\$230,218	\$446,793
Current Assets	\$123,330	\$331,379	\$697,032
Capital Equipment	\$81,400	\$117,800	\$189,800
Less: Accumulated Depreciation	\$13,507	\$33,080	\$66,360
Fixed Assets	\$67,893	\$84,720	\$123,440
Other Assets	\$0	\$0	\$0
Total Assets	\$191,223	\$416,099	\$820,472
Accounts Payable	\$34,650	\$71,238	\$133,901
Taxes Payable	\$0	\$73,715	\$128,856
Current Liabilities	\$34,650	\$144,953	\$262,757
Deferred Interest	\$0	\$0	\$0
Bank Note	\$150,000	\$0	\$0
Long-Term Debt	\$150,000	\$0	\$0
Total Liabilities	\$184,650	\$144,953	\$262,757
Owner's Equity	\$50,000	\$50,000	\$0
Retained Earnings	(\$43,426)	\$221,146	\$557,714
Shareholder's Equity	\$6,574	\$271,146	\$557,714
Total Liabilities & Equity	\$191,224	\$416,099	\$820,471

Funds Flow Statement	Year-1	Year-2	Year-3
Cash at Beginning of Year	\$200,000	\$12,485	\$101,161
Sources of Cash			
Net Income (loss)	(\$43,426)	\$264,571	\$386,569
Depreciation	\$13,507	\$19,573	\$33,280
Accounts Payable	\$34,650	\$110,303	\$62,664
Total Sources of Cash	\$4,731	\$394,447	\$482,512
Uses of Cash			
Accounts Receivable	\$110,845	\$119,372	\$216,575
Capital Equipment	\$81,400	\$36,400	\$72,000
Repayment of Debt	\$0	\$150,000	\$50,000
Total Uses of Cash	\$192,245	\$305,772	\$338,575
Cash at End of Year	\$12,485	\$101,160	\$245,098

Appendix J

Evaluating the Plan

Ratios	Year-1	Year-2	Year-3
Gross Margin	38.3%	39.0%	40.9%
G&A % of Sales	16.4%	14.0%	11.0%
ROS (Return on Sales)	-6.4%	18.9%	14.2%
Revenue per Employee	\$84,289	\$93,366	\$104,538
Space per Employee (sq.ft.)	430	239	148
Current Ratio	3.6	2.3	2.7
Days Receivables	60.0	60.0	60.0
Days Payables	30.4	30.4	30.4

Growth/Market Share	Year-1	Year-2	Year-3
Market (millions)	\$28.0	\$29.4	\$30.7
SDES Revenue	\$674,310	\$1,400,490	\$2,717,988
SDES Revenue Growth		107.7%	94.1%
SDES Market Share	2.4%	4.8%	8.9%
Goal from Plan	2.5%	5.0%	10.0%