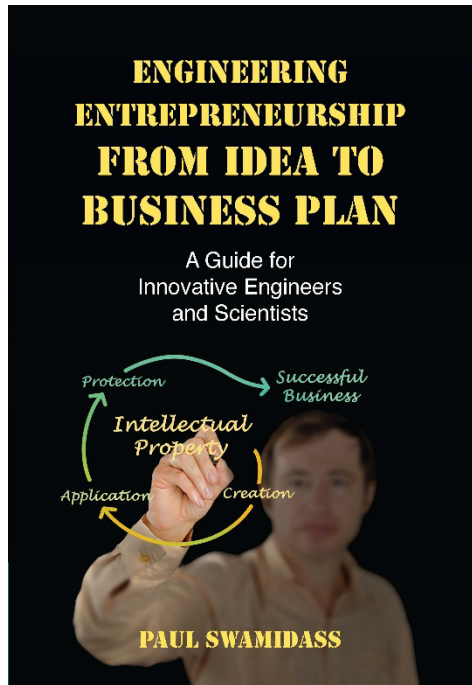


A supplement to the book



A WORKBOOK

FIRST EDITION

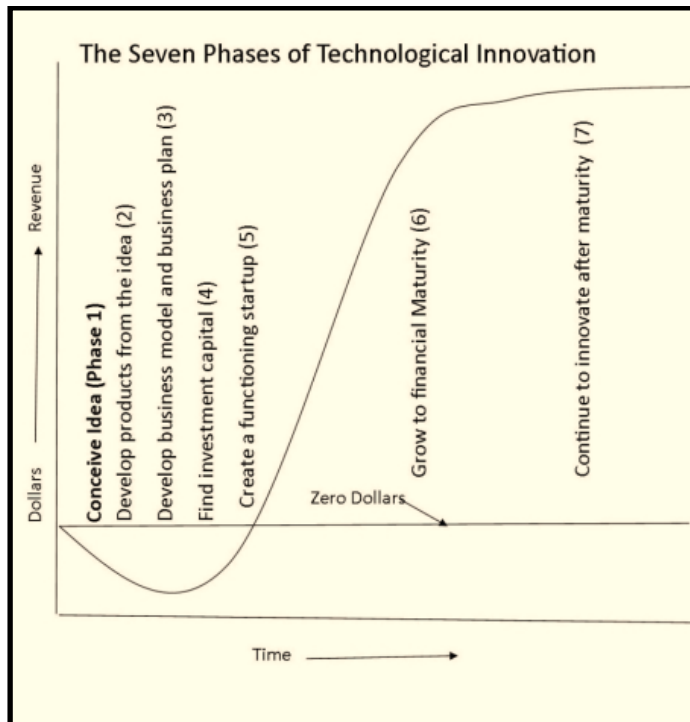
Paul Swamidass, Ph.D.

Printed by

Copyright © Paul Swamidass

All rights reserved

Date:.....



Engineering Entrepreneurship from Idea to business plan:

**A GUIDE FOR INNOVATIVE ENGINEERS AND
SCIENTISTS**

(Cambridge University Press, 2016)

**By
Paul Swamidass, Ph.D.¹
Professor Emeritus
Harbert College of Business
Auburn University**

45 pages

10-Week schedule

21 Worksheets arranged by weeks

¹ Dr. Paul Swamidass is the former Director of the Business-Engineering-Technology minor, and from 2005 to 2014 was the Director of the Thomas Walter Center for Technology Management, Ginn College of Engineering, Auburn University, Auburn, AL, USA. [Website](#); [LinkedIn](#).

Table of contents for the **WORKBOOK**

Preface

Detachable Worksheets

Week 1

Worksheet WK1-1: Evaluation of your teamwork skills

Week 2

Worksheet WK2-1: Propose three product ideas to create value

Week 3

Worksheet WK3-1: Draft a customer input survey questionnaire

Worksheet WK3-2: New idea → product transformation

Week 4

Worksheet WK4-1: Apply engineering design principles to your product

Week 5

Worksheet WK5-1: Your patent search

Worksheet WK5-2: Draft a provisional patent application

Worksheet WK5-3: Evaluating your options for patent application

Worksheet WK5-4: Evaluating your options for commercialization

Week 6

Worksheet WK6-1: Market size estimation

Worksheet WK6-2: Competition research

Week 7

Worksheet WK7-1: Evaluating Make or buy options

Worksheet WK7-2: Marketing, distribution and sales plan

Worksheet WK7-3: Cost of reaching a customer

Week 8

Worksheet WK8-1: Pricing worksheet

Worksheet WK8-2: Estimate sales and yearly revenue for 5 years

Worksheet WK8-3: Estimate cost of goods sold

Worksheet WK8-4: Estimate selling and general administrative expenses

Week 9

Worksheet WK9-1: Business model worksheet

Week 10

Worksheet: WK10-1 Estimate five-year cash flow

Worksheet WK10-2: Evaluating your options beyond the business plan

Detachable Worksheets

WEEK 1: Worksheet 1-1

Evaluate your teamwork skills

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS

If you have worked on teams before in academic settings, at work, in sports, or extra-curricular team, rate your contribution.

Name of person being evaluated:

	Questionnaire items	Strongly disagree 1	2	3	4	5	Strongly agree 6
1	I felt comfortable among my team members						
2	I discouraged undesirable conflicts in the team						
3	I was effective in managing conflicts within our team						
4	I encouraged all team members to participated in team decisions						
5	I used "active listening" techniques in the team						
6	I was able to monitor and provide feedback to individuals on individual team member performance						
7	I helped define individual and shared responsibilities in the team.						
8	I volunteered for team duties and roles						
9	I helped team members to stay on the task (agenda) during meetings						
10	I strived for consensus in our team decisions						

Based on the rating above, what are the strengths and areas that need more work as a team player?

WEEK 2: WORKSHEET 2-1 (2 PAGES)

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS

PROPOSE 3 NEW PRODUCT IDEAS

YOUR IDEA #1	
DESCRIBE THE NEED	
OR, DESCRIBE THE OPPORTUNITY	
OR, HOW WOULD IT IMPROVE AN EXISTING SOLUTION TO A PROBLEM?	
OR, HOW WOULD IT IMPROVE A COMPETITOR'S PRODUCT?	
YOUR IDEA #2	
DESCRIBE THE NEED	
OR, DESCRIBE THE OPPORTUNITY	
OR, HOW WOULD IT IMPROVE AN EXISTING SOLUTION TO A PROBLEM?	
OR, HOW WOULD IT IMPROVE A COMPETITOR'S PRODUCT?	

WEEK 2: WORKSHEET 2-1 (PAGE 2)

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS

PROPOSE 3 NEW PRODUCT IDEAS

MAKE COPIES OF THE TABLE AS NEEDED

YOUR IDEA #3	
DESCRIBE THE NEED	
OR, DESCRIBE THE OPPORTUNITY	
OR, HOW WOULD IT IMPROVE AN EXISTING SOLUTION TO A PROBLEM?	
OR, HOW WOULD IT IMPROVE A COMPETITOR'S PRODUCT?	

Add more ideas to the list and evaluate them by comparing them against each other. Reduce the list to one best idea that deserves your time to develop fully as a product.

WEEK 3: WORKSHEET 3-1 (2 pages)
BOOK: ENGINEERING ENTREPRENEURSHIP, BY SWAMIDASS

DRAFT A CUSTOMER SURVEY QUESTIONNAIRE—CONSULT BOOK

To find out	Draft your Questions here
<p>In the actual questionnaire, describe your product as clearly as possible. Add pictures, data, and other information to convey the uniqueness of your product, its functions and features. Enter brief description of the product here:</p>	
Does the customer use this product?	
Why does the customer use this product?	
How often does the customer use the product?	
What functions are important (give a list)	
What features are important (give a list)	
How often do you buy this product?	
Who in the family purchases this item?	
What price are you willing to pay?	
What functions are missing in the product in market today?	

How much more would you pay for additional functions?	
When or when does the customer use this product?	
Add more questions to understand customer needs better and to help you design a product with customer appeal, Etc.,Etc.	
INFORMATION ON WHO WOULD USE YOUR PRODUCT—Write questions to get demographical data as appropriate for your product	
Where customers live—region	
If gender matters	
If age matters	
If income matters	
If home ownership matters	
Their lifestyle choice such as exercise habits, vacation habits, etc.	
Other relevant demographical information to help decide who your key customers will be	

Add additional questions, as needed for your product

Worksheet 3-1 (Page 2)

WEEK 3: WORKSHEET 3-2
BOOK: ENGINEERING ENTREPRENEURSHIP, BY SWAMIDASS
NEW IDEA TO PRODUCT TRANSFORMATION

MAKE COPIES OF THE TABLE AS NEEDED

Items	Describe your product here
What is your idea?	
What customer need does your product fulfill?	
What new opportunity in the market does your product address?	
What totally new market would you product address?	
List all key functions of your product, and rank them by importance to customers	
Why would your customers need these functions?	
How are customers meeting these functions today with products in the market?	
What are the key features of your product and rank them by importance	
Why are these features important to customers?	
Do you know how much customers may for key functions of your product?	
Do you know how much customers may pay for key feature of your product?	
Other?	

WEEK 4: WORKSHEET 4-1 (2 PAGES)
BOOK: ENGINEERING ENTREPRENEURSHIP, BY SWAMIDASS
APPLY ENGINEERING DESIGN PRINCIPLES TO YOUR PRODUCT

MAKE COPIES OF THE TABLE AS NEEDED

Principle	How you plan to implement it in your product
Ensure there is at least one major function to benefit the customer	
Performance targets for the product (Examples, miles per gallon for a car)	
Efficiency of the product (Ex: electric power consumption per month)	
Ease and cost of maintenance (Ex: customer can fix problems, reliable and low failure rate, etc.)	
Failure proofing—design a product that is durable and would not fail easily	
Make it affordable to the customers	
Design it for manufacturing—cost, quality, and flexibility in manufacturing	
Design a safe product—while manufacturing and in the hands of the customers	
Long life of the product that meets or exceeds customer expectations	

The product would work without frequent failure	
Product that would compete well against competing products—it can gain market against competition; a better product than what competition offers	
Product is unique, innovative and based on a novel idea	
Intellectual property is protected from competitors	
Other?	
Other?	

WEEK 5: WORKSHEET 5-1

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS

YOUR PATENT SEARCH—USE REVISED VERSION

Activity	Your findings
Search USPTO database and find numeric the product classification and sub-classification for patent search	List the product classifications here:
Key works for patent search that is representative of your invention	List key words for search here:
Search the USPTO database or GOOGLE PATENT SEARCH using the numeric classification(s) and key words	List patent numbers are similar or close as a result of classification number search: List the US patent applications that are similar or close as a result of key words search:
Which granted patents, applications and expired patents are relevant to your invention within your product “space??”	List them here:
Are there too many applications and granted patents already?	Is there still room your patent in the “space?”
Are there some patents?	Is there sufficient room for your patent in the product “space” allowing you to use the patent commercially?
Are there negligible or no patents?	Do you anticipate you patent application would be the first in this space? If yes, move fast.

WEEK 5: WORKSHEET 5-2 (3 PAGES)

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS

WS-6: OUTLINE FOR A PROVISIONAL PATENT APPLICATION

Application part	Your draft application outline
	Use this outline to prepare your provisional application
Abstract	
Number of drawings (one page per drawing) each figure and page numbered—parts identified	
Description section	Draft an outline for the five items that follow
1. Field of invention	
2. Prior art—refer to inventions that are relevant but explain why your invention is different, novel, unique and has different uses	

3. Brief summary of the invention	
4. Brief descriptions of the drawings	
5. For each embodiment, detailed description of the drawing with reference to parts numbered in the drawings	
Claims	Read several patent applications on similar inventions and draft at least 3 to 5 claims: at least one independent claim.
Claim 1 (must be independent—follow the language and structure in similar granted patents)	<p style="text-align: center;">WORKSHEET 5-2 (PAGE 2)</p>

Claim 2	
Claim 3	
Other claims	

Worksheet 5-2 (Page 3)

WEEK 5: WORKSHEET 5-3 (2 PAGES)

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS

EVALUATING THE OPTIONS FOR FILING A PATENT

Options	My decision
<p>Option 1 Prepare and file a PROVISIONAL patent application with the USPTO and file it on the web as a pro se applicant.</p> <p>Provisional patent gives protection for 365 days</p>	<p>1. Apply for Electronic Filing System (EFS) customer number on USPTO form SB-125A; Customer number is free; Allow three weeks to process the customer number.</p> <p>2. Apply for “micro-entity” status using USPTO form SB 15A, or apply for “small-entity” status; both reduce the cost of filing</p> <p>Cost for provisional application 2014: Micro entity (students) = approx \$85 for filing Small entity (others with income) = approx. \$170</p> <p>My reasons for choosing this Petition 1 are:</p> <p>Date filed:</p>
<p>Option 2 Prepare the application but get the CLAIMS read and corrected by a patent attorney.</p> <p>Then file the application as a pro se applicant</p>	<p>First, apply for a free EFS customer number. Allow three weeks for the customer number; a patent attorney cost may range from \$500 to \$1000 for a less complex patent</p> <p>My reasons for using this option are:</p> <p>Date filed:</p>

<p>Option 3 Get the application prepared and submitted to the USPTO by a patent attorney</p> <p>An utility patent gives 20 years protection in the USA</p>	<p>The cost of filing the PROVISIONAL patent through an attorney may range from \$1000 to \$2000.</p> <p>The cost of filing an UTILITY patent may range from \$5,000 to \$10,000 for a less complex invention. You may get the patent using the services of an attorney and apply for second and subsequent patents as a pro se, without an attorney.</p> <p>My reasons for using an attorney are:</p> <p>Date filed:</p>
--	---

Worksheet 5-3 (Page 2)

WEEK 5: WORKSHEET 5-4 (2 PAGES)

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS

EVALUATING THE OPTIONS FOR COMMERCIALIZATION

For the first-time individual inventor, commercialization options will present new experiences and challenges. There is no clear sequential process to go from a patent application to successful commercialization. The success would come to the inventor who is open to evaluating, learning and responding to the circumstances as they present themselves. The following list contains common options but it is not exhaustive; there may be other less common options accessible to some inventors.

Option	Description
1. License the invention immediately	<p>This is a less common option at this stage of development. Licensing could be exclusive to one business or non-exclusive to more than one business. The license could be for a limited period or for an indefinite period. There is a very small chance the invention could be licensed or sold outright at this stage.</p> <p>Your NOTES:</p>
2. Develop a working proof-of-concept (POC)	<p>This will instantly add value. A working POC or prototype or model convinces the inventor and others the workability of the invention. This can be a huge leap before licensing or for investors in a business using this invention. The royalty and other monetary income from the invention would increase once a convincing POC is ready.</p> <p>If the cost of producing a POC is significant, the inventor might use own funds or borrow from others. If the inventor borrows funds from friends and family, the risks of investing in a POC must be honestly presented; perhaps, in 80%-90% of the cases, they may not recover the funds. It is imperative that</p>

	<p>family and friends know the extent of the risks before they lend the funds or invest. If not, the inventor risks broken relationships when he/she is unable to return the funds to the satisfaction of the lender.</p> <p>Your NOTES</p>
<p>3. Apply for an utility patent with the USPTO</p>	<p>Utility patent gives protection for 20 years in the USA. Licensing opportunities increase. The licensing company may cover the cost of the utility patent. The company may use its funds to get international patents. Use an attorney to do the licensing agreement with one or more businesses.</p> <p>Your NOTES</p>
<p>4. Using the provisional or utility patent, start a business after careful planning. Develop the business model and business plan described in the next few chapters for planning for the startup business. Use the business plan to raise investment capital.</p>	<p>Your Notes</p>

Worksheet 5-4 (Page 2)

WEEK 6: WORKSHEET WK6-1

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS

MARKET SIZE ESTIMATION

Item	Your estimates
Who are your customers in the US? Abroad? Is it relevant now?	
How many total addressable customers are there in the USA?	
Which customers should your company focus on?	US? Region? State? Local city?
How large is your target market in terms of units demanded per year? Show your computations justifying your estimate	

WEEK 6: WORKSHEET 6-2 (2 PAGES)

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS

COMPETITION RESEARCH

Items	Your findings about competition
Define your target market	
Who are the major competitors?	
Whose products compete directly with your product?	
Why would customers buy your product over each competitor's product?	
Would new competitors enter this market if you enter the market?	

<p>Are we protected against imitation by others in the market? How?</p>	
<p>Your source of sustainable competitive advantage</p>	<p>Cost leadership:</p> <p>Differentiation:</p> <p>Focus:</p>
<p>Conclusions</p>	<p>Should you enter this market?</p> <p>How to enter the market?</p> <p>How are you protected from competitors?</p>

Worksheet 6-2 (Page 2)

WEEK 7: WORKSHEET WK7-1

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS

EVALUATING MAKE OR BUY OPTIONS

Critical items	Describe with details
Could you get your product custom made and purchased ready to go to the customers meeting your quality standards?	
What would it cost to purchase a fully assembled custom make product?	
Would you be able to sell the product at least twice your cost for acquiring it?	
What selling price would the market accept? Could you sell below this price? How much lower?	
If you cannot get it made at 50% or less than your selling price that the market would accept, could you manufacture it at a cost = less than 50% of selling price?	
If the assembly is too expensive to purchase could you purchase major components and assemble them yourself at a competitive price?	

WEEK 7: WORKSHEET 7-2 (4 PAGES)

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS

MARKETING, TARGET MARKET, DISTRIBUTION AND SALES PLAN

Marketing

Marketing Items	Describe your company's plan of action
Product What aspects of the product would you highlight in marketing?	
Price How the product is likely to be priced compared to competition...low cost, premium price, etc. What role would the price play in the marketing plan?	
Promotion How would you promote your product? What expenses are associated with promotional options?	
Place Where does the sale take place? By Internet, retail store, etc.? Regional, national, local?	

BOOK: ENGINEERING ENTREPRENEURSHIP, BY SWAMIDASS

Items describing market segment	Relevant segments your business would target
Demographic segments of the market relevant to your business, by age, gender, income, students, etc.	Age; Gender: other
Psychographic segments such as personality, motives, lifestyle issues such as fitness, athletic, parting, etc.	
Use rate such as high, medium and low users of the product	
Geographical segmentation such as US, regional, international, state, city, etc. that your company needs to target	

Worksheet 7-2 (page 2)

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS

Worksheet 7-2 (Page 3)

Estimate of target market size and selling costs

Targeted market description	Relevant target market for your company
What is the measurable size of the target market in number of customers in the targeted region?	
How will you reach this market?	
<p>Estimated the cost of reaching each customer...this could be substantial in some cases.</p> <p>The medium used could be e-mail, social media, newspaper, direct mail, radio, TV, etc.</p>	
Can you reach the target market? Explain how.	

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS

Worksheet 7-2 (Page 4)

Your selling plan

Selling issues	Your company's plan
Type of sales: direct and/or indirect sales (Internet is direct sales, while selling to wholesalers is indirect selling to customers)	
Who will contact the buyers?	
Method of selling? Internet Retail Wholesale Other	
How do you ensure customer satisfaction and repeat purchase?	
Who would help the customer make the decision during sales?	
How would train your sales staff if you use direct sales?	

WEEK 7: WORKSHEET 7-3 (2 PAGES)

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS

THE COST OF REACHING A CUSTOMER

Advertising medium	Estimated budget and number of customers reached effectively
Internet	<p>What percent of the budget goes to Internet advertisement and promotion?</p> <p>How many customers do you expect to purchase as a result of Internet advertisement?</p> <p>If you are a 100% Internet based company, how do you expect to carry it out?</p> <p>What would be your budget for Internet advertisement and promotion?</p> <p>What would be the expected number of actual customers for planning?</p>
Social media	<p>What percent of the total budget goes to social media advertisement?</p> <p>Budget for social media?</p> <p>Expected number of actual customers from social media promotion?</p>

News papers	<p>What percent of the total budget goes to newspaper advertisement?</p> <p>Budget?</p> <p>Expected number of actual customers?</p>
Other	<p>What percent of the total budget goes to this advertisement medium?</p> <p>Budget?</p> <p>Expected number of actual customers?</p>
Total advertising and promotion budget for the year	<p>Total Budget?</p> <p>Expected number of total actual customers for the year?</p> <p>Cost of reaching one customer = \$</p>

Worksheet 7-3 (Page 2)

WEEK 8: WORKSHEET 8-1 (2 PAGES)
BOOK: ENGINEERING ENTREPRENEURSHIP, BY SWAMIDASS

PRICING WORKSHEET

PRICING ISSUES	YOUR DECISIONS
Objectives	To determine a price for developing a five-year cash flow, to determine breakeven, etc.
Type of product positioning?	Low-cost product and high volume? (Example: McDonald's) Differentiated product? How? (Innovation: iPhone, brand: Gucci, performance: Ferrari)
Estimate size of demand	Is it High volume sales? Medium volume sales? Low volume sales?
Costs	Fixed costs Variable costs
Competitors' price analysis	Competitors may limit your ability to price your product above their price, and competitors may drop their price below your price.
Pricing method?	Markup--add a desired profit to the sum of all costs Target a return on investment: If you want 20% return on investment, add a profit to the total cost to achieve the desired return on investment. Consumers' perceived value: If the customer places a high value on your product for any tangible or intangible reason, you may price it high—due to brand value, innovation, or quality/performance.

	<p>Priced by the going rate: If the market is saturated with suppliers in a commodity-like product, it would be impossible to sell at more than the going rate. If the going rate is above your total cost, you can succeed. If the going rate is below your total cost, you need to reduce your costs before entering the market or introduce a discriminating value to the product to price it higher</p>
<p>Select a price after considering the options</p>	<p>Price is limited by the ceiling price of dominant competitors who rule the market</p> <p>High price given the high perceived value placed on our product by customers</p> <p>Price is the lowest possible price without cutting severely into an acceptable profit</p> <p>Other?</p>

Worksheet 8-1 (Page 2)

WEEK 8: WORKSHEET 8-2

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS
 USE TEMPLATE DOWNLOADABLE FROM THE WEBSITE FOR THE BOOK
[HTTP://WWW.ENGINEER-ENTREPRENEUR-BOOK.COM/](http://www.engineer-entrepreneur-book.com/)

ESTIMATE SALES AND YEARLY REVENUE FOR 5 YEARS

Year	1	2	3	4	5
Revenue Estimate					
Units Sold					
Price Per Unit estimate \$					
Installation /Service Revenue \$					
Total Revenue Per Unit \$					
Total Revenue Per Year \$ Enter in Cash Flow table					

Notes:

Explain the number of units sold per year assumed:

Explain price assumed:

WEEK 8: WORKSHEET 8-3

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS
 USE TEMPLATE DOWNLOADABLE FROM THE WEBSITE FOR THE BOOK
[HTTP://WWW.ENGINEER-ENTREPRENEUR-BOOK.COM/](http://www.engineer-entrepreneur-book.com/)

ESTIMATE COST OF GOODS SOLD

Year	1	2	3	4	5
Cost Of Goods Sold:					
Units Produced (from Revenue table in WK8-2)					
Direct Cost Per Unit:					
Materials 1 \$					
Materials 2 \$					
Labor \$					
Other/Outsourcing \$					
Cost Per Unit \$					
Total Cost of Goods Sold \$ Transfer to Cash flow table					

Notes:

Explain materials, labor, energy, out-sourcing, and all other costs assumed to complete the above table

WEEK 8: WORKSHEET 8-4

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS
 USE TEMPLATE DOWNLOADABLE FROM THE WEBSITE FOR THE BOOK
[HTTP://WWW.ENGINEER-ENTREPRENEUR-BOOK.COM/](http://www.engineer-entrepreneur-book.com/)

ESTIMATE SELLING AND GENERAL ADMINISTRATIVE EXPENSES

Year	1	2	3	4	5
Units Produced (from Revenue WK8-2)					
Selling Expenses Per Unit:					
Sales Commissions					
Sales Salaries					
Shipping					
Advertising					
Other					
Total Selling Expenses Per Unit					
Total Selling Expenses					
General and Administrative Expenses:					
Salary and Benefits					
Utilities					
Rent					
Insurance					
Other					
Total General/Administrative Expenses					
Total Selling & General/Admins expenses transferred to Cash flow table					

Notes:

Explain your assumptions in the table above for costs:

WEEK 9: WORKSHEET WK9-1 (2 PAGES)
BOOK: ENGINEERING ENTREPRENEURSHIP, BY SWAMIDASS

BUSINESS MODEL WORKSHEET

Item	Bus. Model component	Business Model details
1	Value proposition	
2	Key activities of the new business	
3	Key partners and why we need them	
4	Key resources	
5	Customer relationships	
6	Customer segments that will be our core focus	

7	Channels of distribution, Internet, retail, wholesale, etc.	
8	Cost structure	
9	Selling price, and revenue streams from different channels	
10	Other notable items	
11		

Worksheet 9-1 (Page 2)

WEEK 10: WORKSHEET 10-1 (2 PAGES)

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS

USE TEMPLATE DOWNLOADABLE FROM THE WEBSITE FOR THE BOOK

[HTTP://WWW.ENGINEER-ENTREPRENEUR-BOOK.COM/](http://www.engineer-entrepreneur-book.com/)

**NOTE: MOST CELLS WILL BE AUTOMATICALLY COMPLETED BY THE
DOWNLOADED TEMPLATE**

ESTIMATE FIVE-YEAR CASH FLOW

Cash Flow Projections					
Note:					
(100) = minus \$100					
Year:	1	2	3	4	5
Total Sales Revenue \$					
(Cost of Goods Sold) \$					
Gross Margin \$					
(Depreciation)					
(SG&A) \$					
Operating Income \$					
(Interest Expense)					
Income Before Taxes \$					
(Taxes) \$					
Net Income \$					
Depreciation Add Back					
Net Cash Inflows / (Outflows) \$					
Beginning of the year Cash Balance \$					
Seed Investment					
Angel/Venture Capital					
(Capital Expenditures)					
Loans / (Loan Payments)					
End of the year Cash \$					

Notes:

1. Explain your assumptions and entries here:

WEEK 10: WORKSHEET 10-2

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS
 USE TEMPLATE DOWNLOADABLE FROM THE WEBSITE FOR THE BOOK
[HTTP://WWW.ENGINEER-ENTREPRENEUR-BOOK/](http://www.engineer-entrepreneur-book.com/)

EVALUATING THE OPTIONS BEYOND THE BUSINESS PLAN

Evaluation items	Your responses
On a scale of 1-10, how convinced are you that this is a good business and you want to devote your time, effort and money to start and run it?	1 2 3 4 5 6 7 8 9 10 (circle one)
How much seed investment are you likely to invest from you own and family funds?	
How much more investment do you need from investors in the first year?	
Would like to license the technology and patented or pending patent idea to some business professionals and investors? If so, why? How much do you value your business in order to license it?	Total value of the business or idea: \$ Licensing royalty for exclusive rights? \$ Licensing royalty for non-exclusive rights? \$
If someone wanted to acquire 50% share of the business, would you consider it and how much investment would you ask for?	50% in return for: \$ Explain
Do you want to own all the business and try running it as a hobby on the side until it takes of generates strong revenue?	Explain
Do you agree, "I am not ready to run this business but would use the experience developing this business plan for my next idea."	Explain why?

BOOK: **ENGINEERING ENTREPRENEURSHIP**, BY SWAMIDASS
 USE TEMPLATE DOWNLOADABLE FROM THE WEBSITE FOR THE BOOK
[HTTP://WWW.ENGINEER-ENTREPRENEUR-BOOK/](http://www.engineer-entrepreneur-book.com/)

Survey of students

The invites students, who used this workbook, to give useful feedback based on their experience with the workbook:

Item	Question	Response—circle one number Strongly Strongly Disagree Agree
1	Overall, the WORKBOOK helped my understanding of the steps leading to a business plan	1 2 3 4 5 6 7 8 9 10
2	I was able to accomplish much with the WORKBOOK	1 2 3 4 5 6 7 8 9 10
3	Because of the workbook, I have a record of essential data, analyses and steps leading to a business plan	1 2 3 4 5 6 7 8 9 10
4.	Because of the workbook, I addressed important issues	1 2 3 4 5 6 7 8 9 10
5	I intend to use the workbook to finish my business plan	1 2 3 4 5 6 7 8 9 10
6	I am better prepared to speak to potential investors about my business	1 2 3 4 5 6 7 8 9 10

Add your comments to help improve the Workbook:

.....

Identify the most helpful WORKSHEETS by title or Worksheet number, and say why you like it.

.....

WORKSHEETS that need improvement:

Worksheet number	Suggested improvements

End.