

Business Strategy and Intrapreneurship

Course:APS1061S, Summer 2018

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See his Bio at the end of this document.

COURSE DESCRIPTION

Overview:

The careers of most engineering graduates digress from core engineering functions immediately or soon after graduation. The combination of greater opportunity for engineers in management of companies and the effectiveness of engineering education in problem solving creates this confluence of need and opportunity. As a consequence many engineers combine their engineering educations with MBA degrees. To many engineering students the commitment to an MBA and a career in management comes too early to decide. This course is designed to give graduate technologists/engineers a chance to solve a real world business problem in a classroom environment, leveraging their existing engineering skills, using tools commonly used in business.

APS1061S is a course on how to define, solve and communicate the solution to a business problem using an engineering approach. The course was developed and is taught by successful Canadian entrepreneurs who imagined, built and later sold their successful businesses. The course materials, lectures, and assignments are based on our personal experiences and published best practices. The course and materials provides students with a toolkit for solving business problems, and through the course project an exercise in how to do it. The key to business success is focused execution of a great business plan.

Challenge Business Problem:

Student groups will work on a challenge business problem from a real business that will be provided by Professor Treiber. Students will be given a package describing the basic opportunity and they will develop a business plan for this as the course project.

WALMART's response to the challenge of AMAZON's e-business model is the quintessential example of the transition from economies of the 19th century that monetize "things" through retail and manufacturing to the economy of the 21st Century that monetizes knowledge, information and data. How does a business apparently built on bricks and mortar(WALMART) challenge the disruptive business model of AMAZON? All of the pertinent business information is publically available. The moves these competitors have been making are documented in articles in the Wall Street Journal, Financial Post, Harvard Business Review and many other publications. The student problem and course project will be to forecast possible future moves by WALMART or AMAZON in this contest. All students will work in teams and all teams will work on the same problem.

One of the interesting characteristics of this challenge is that both WALMART and AMAZON are

entrepreneurial businesses built on key software-based disruptions by an entrepreneurial owner. In the case of WALMART the entrepreneurial innovation by the founder, Sam Walton, was squeezing value out of the supply chain and sharing the resulting profit from these efficiencies with his customers in the form of the lowest prices. In the case of AMAZON the key innovation by its founder, Jeff Bezos, was exploiting the catalogue sales model of Sears(or Eaton's in Canada) on the internet to create a e-marketplace. Both businesses have grown beyond the founders' original vision and in the case of AMAZON the founder is still in charge.

The tool that we will use for expressing the business problem, solution and plan is the Business Canvas of Alex Osterwalder with a focus on how this methodology aligns with existing engineering problem solving skills. The tool kit is defined in the course notes developed by entrepreneurial engineers during their careers developing their own successful technology start-ups.

The Business Canvas tool will be supplemented by a student developed cash flow projection to complete the course project report as a summary business plan.

Taking Notes:

All of the lecture notes used in the classroom are available to you on your Quercos course website. We provide the entire lecture series' notes and handouts used in the classroom so that you will not need to take detailed notes.

Recommended Reading:

Hurdle: The Book of Business Planning

Tim Berry, Palo Alto Software, ISBN 0-9712185-0-1

Small Business Management - Launching and Growing New Ventures

5th Edition by Justin Longenecker - Baylor University, Leo B. Donlevy - Haskayne School of Business University of Calgary, Terri Champion - Niagara College, Carlos W. Moore - Baylor University, J. William Petty - Baylor University, Leslie E. Palich - Baylor University. ISBN-10: 0176503900 ISBN-13: 9780176503901 608 Pages © 2013 Published.

Details

The course is on Quercos, so you should sign in as soon as possible and read the handouts. We will post on Quercos all handouts as the course unfolds on the dates shown in this document – so visit often.

Individual Student Assignment

Business Press Review

As part of your class participation mark you are expected to read an appropriate article from a reliable business publication (Globe and Mail ROB, National Post – Financial Section, Financial Times, Canadian Business, etc.) and prepare a written *half page* report.

Submit your report by midnight of the day *before every morning class*. Submit on Quercos and do not forget to reference the article you are reporting on.

Your report should be about economic, political or personal issues *affecting businesses*. These may be: a drop (or rise) in interest rates; recently released trade figures; import/export news; currency issues; government actions; approvals of financing; bankruptcies; tax matters, entrepreneurs, success stories, etc., etc. We expect you to write a thoughtful report on the meaning of the issue, not a précis of the article.

At the start of each morning class, up to 5 students will be asked to make a 60-second oral presentation of their report (a printout of your report will be provided).

Successful business people read the financial news every day! This assignment is meant to help you understand the importance for entrepreneurs of “keeping on top of the business news” and to help you hone your public speaking skills.

Student Team Assignments

All work associated with developing the business plan will be done in teams. Students will organize themselves into teams of two to four students. At the start of the second lecture students will submit the names of their proposed team to Professor Treiber for approval. All team assignments will be marked as a team mark. A student may opt to work alone but must get permission from Professor Treiber.

Market Research Assignment

Market Research is the essential ingredient required understand whether or not your business solution is likely to be successful. This assignment was designed to help you get started on the Market Research portion of your Business Plan.

During the class at which this assignment is due each team will make a brief(up to five minute) presentation about their market research. The objective of market research at this stage is to determine if there is a feasible business solution to the identified problem.

Business Canvas/Business Plan Proposal

Once your team has come up with an idea for your Business Problem Solution, you must submit the idea to Professor Treiber for approval as soon as possible. While this is not a “marked” assignment, you must have this approved before you proceed with your Business Canvas/Plan.

Milestones in the Business Canvas Progress Report

The business canvas is a tool that will help you define your business problem and its business model. We want to define a business model and how your business solution creates value for itself (generates profit) while delivering products or services for its customers. During this course you will have the unique opportunity to develop the different sections of the canvas and use them as the building blocks to create your final Business Plan. The term project is a Business Plan and it is intended to give you "hands on" experience in developing a document that is *absolutely essential* if you ever get into business for yourself.

Preparing a Business Plan is not a simple exercise. We start with the Business Canvas – See the document on Quercos that describes this process in detail. The Business Canvas is a Progress Report is on what you are planning in your Business Plan to which the Canvas will lead. This is to ensure that you get started early.

Milestone #1 will be reached by Day 8 of the course. We expect you to have fully developed Sections 1, 2, 3 and 4 of the Canvas and there are marks for this document. This will be essential for your Business Plan's success.

During the class at which this assignment is due each team will make a brief(up to five minute) presentation about their Canvas. The objective of the Canvas at this stage is to identify any holes in the analysis of the business opportunity.

Milestone #2 will have all the Sections 1 to 9 inclusive completed. Marks will be assessed for the entire

canvas and it will be due at the final class..

During the class at which this assignment is due each team will make a brief(up to five minute) presentation about their Canvas. The objective of the Canvas at this stage is to identify any holes in their analysis of the business opportunity.

Final Business Plan

The creation of your business plan will be an organic process once you have completed all the elements of your business canvas. The comments you receive on your Progress Reports will guide you to validate your hypothesis and value proposition. There is also a lot of help available on the Internet, so please feel free to use any/all such assistance – but make sure you give credit by citing your sources. In addition to the canvas a financial cash flow projection for the business plan is required.

Keep in mind that this is a business document – not a novel. Good communication is essential, so keep your language short and to the point. Always proof read to ensure accuracy of facts and language – *do not just rely on spell check!*

In-Class Presentations

Each student will have the opportunity to make individual and team presentations during the term. The first presentation will be a 90 second “elevator pitch”. An elevator pitch is a 90 second or less sales pitch that will get an important person whom you happen to meet and you want him/her to agree to a longer meeting that will last up to an hour where they will hear in detail why your business idea is the huge opportunity for them to make money on or improve their business. The elevator pitch will happen at the Business Canvas Workshop on Day 4. More details will be provided on these presentations during the course of but obviously they are directly related to the Term Project, the Business Plan.

The Business Plan presentation and submission of written business plan will occur one week after the short course ends.

ASSIGNMENT DUE DATES

	Report or Assignment	Due
1.	Market Research Assignment	Day 6
2.	Business Canvas Progress Report # 1/Presentation	Day 8
3.	Business Canvas Progress # 2 Presentation	Day 10
4.	Business Canvas Report & Financial	Day 10+1wk

Please respect the fact that we will enforce these dates. Do not make any excuses because we will not be *sympathetic!* If you encounter any problems we will always try to help you just set up an appointment and we will make time for you. **There will be a 40% discount** on the mark if an assignment is handed in late, but we will not accept assignments handed in after we have returned that marked assignment to the class and you will get ZERO for that assignment.

MARKING SCHEME

Class Participation (includes Business Press reviews)	10%
Market Research Assignment/Presentation	20%
Elevator Pitch	10%
Progress Report #1 – Canvas I/Presentation	15%
Progress Report #2 – Canvas II/Presentation	15%
Final Business Plan/Presentation	30%

WHY TAKE THIS COURSE

APS1061S is designed to let engineering students learn the necessary skills for success in business and discover if they have the appetite to become successful intrapreneurs/entrepreneurs. This [video](#) will explain the core of the problem we will tackle in this course.

The Walmart/Amazon case illustrates what could be the most disruptive incidence of commerce transformation in the 21st Century. It will influence the entire lives of today's students; the supplanting of commerce through monetizing things(retail, manufacturing) to commerce through monetizing knowledge, information and data will affect every profession, trade, skill and livelihood.

In today's economy the most successful people are those who have entrepreneurial skills. In fact today organizations actively search for *intrapreneurs* (an entrepreneurial individual who prefers to work within a larger firm rather than start their own). In order to succeed in entrepreneurial/intrapreneurial endeavor it is important to understand what differentiates entrepreneurs from all others.

All but **two** key entrepreneurial skills for success can be learned and we teach those here. The two skills that cannot be learned are accepting unavoidable RISK and PASSION for what you do. The difference between successful entrepreneurs and intrapreneurs is that entrepreneurs have more willingness to accept RISK than intrapreneurs. This course will help students assess their own aptitude for these skills.

Our approach to teaching this course is based on real-life business experiences and years of successful practice of "what we preach." The course contains very little theoretical material or academic approaches. It is designed to familiarize you with the kinds of opportunities (problems) likely to be encountered in an entrepreneurial career.

2018 SUMMER SCHEDULE

APS1061S

<u>Week</u>	<u>Date</u>	<u>Text-Chapter</u>	<u>Topics</u> <u>Milestones</u>	<u>Assignments & Project</u>
1	Jul 30, AM	1 + 2 handouts	Organizational meeting Business Planning and the Business Canvas - Introduction - The Business Canvas – its role and value	<i>Bus Canvas Assn. handed out</i>
2	Jul 31, AM	5	Business Plan and the Challenge Business Problem - Business Canvas/Plan - Business Idea Brainstorming - Business Challenge Idea	
	Jul 31, PM		Financial Workshop How to read the Walmart Annual Report	
3	Aug 1, AM	6 +notes	Market Research - How to define a business problem <i>Market Research Assignment handed out</i>	
	Aug 1, PM		Market Research Workshop*	
4	Aug 2 AM		Business Problem Definition Workshop Defining the Challenge problem opportunity Value Proposition Canvas	
5	Aug 3 , AM	7 and 8	Sales & Marketing Strategies - Value Proposition & the Value Chain	
ONE WEEK		BREAK		
6	Aug 13, AM	+ 1 week	Sales workshop Who is the customer? Market Research Presentations	<i>Market Research due</i>
7	Aug 14, AM	7 and 8	Financial Analysis - What you need for your business plan Amazon is disrupting the new economy*	
8	Aug 15, AM	A13, 14	Business Canvas Workshop - Elevator Pitch - Team Business Canvas #1 presentations -	
9	Aug 16, AM		Legal issues - Legal forms of a business, Joint Ventures	
10	Aug 17, AM/PM		Team Final Business Canvas Presentations Financial Analysis Workshop	

One Week
Break

11 Aug 24 + 1
Week

**Business Plan Presentation/Business Canvas
Financial Plan**

- **Indicates guest speaker**

Resumé

Steven Treiber, Ph.D., P.Eng

Steve Treiber was born in a refugee camp in post-world war II Europe and immigrated to Canada as a child with his parents. His background gave him a perspective on success that is common to recent immigrants to Canada and provided a unique advantage in entrepreneurial endeavour. He brings that experience and point of view to teaching.

Steve has always had an interest in business. Although he started out working for others, he always had an eye on "doing his own thing" – and he did that after just 7 years in the corporate world. So, in 1984, after an engineering career in the pulp and paper and oil industries with Scott Paper and Shell Oil, respectively, he started his own software and engineering firm in Toronto and later Houston, TX. Treiber Controls Inc. developed process control and real-time optimisation software and applications for the oil, petrochemical, pulp and paper and other process industries. In 1998 he sold his company to a NASDAQ listed competitor, Aspen Technologies, and served in various senior management roles.

He left Aspen in 2002 to launch a new business start-up – the entrepreneurial drive was still there. He continues to work with technology start-up companies to apply his knowledge and experience in engineering and business. He is now President of [Manufacturing Technology Network, Inc.](#)

After receiving a Bachelor of Engineering from McGill University he volunteered to work as a high school teacher in Uganda from 1969-1971. He also holds a Master of Applied Science from the University of Toronto, and a PhD from McGill University, all in Chemical Engineering. He has published over 40 papers in the fields of process control and optimisation, and is an author of 6 patents in the same field. See his profile on [linkedin](#).