Innovative Entrepreneurship Theory and Practice

Course Introduction

888111 - Innovative Entrepreneurship Theory and Practice

What is this course about?

innovative entrepreneurship

you have a great idea

you run your own company

you make money, right?

innovative entrepreneurship

What you know today

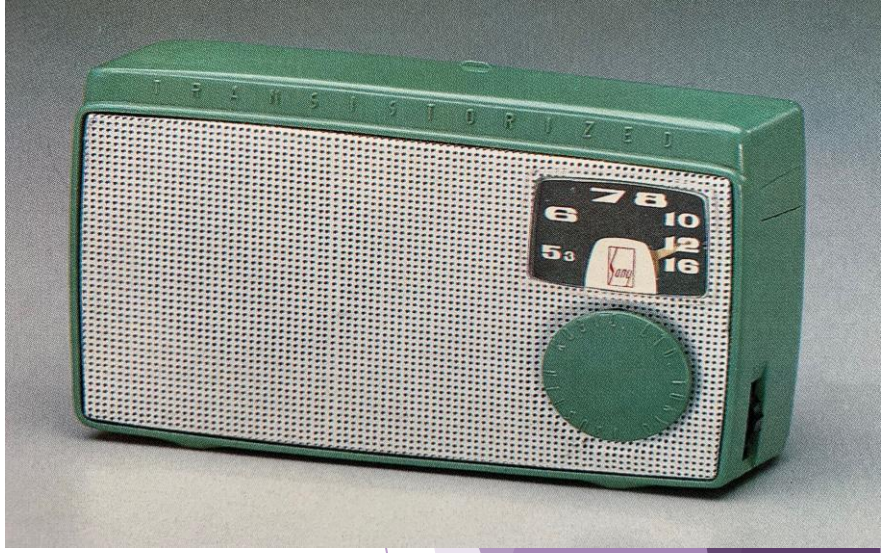
began as innovation

something different & better than before



Electric Refrigeration

- With the development of the electric refrigerator in the 1920s, the icebox became a thing of the past.
- By pumping a special fluid that vaporizes at low temperatures through a system of pipes, the "fridge" became an indispensable household item that could store foods safely for longer periods.
- Today, fewer than 1 percent of American homes are without one.



Radio

- Although its technology existed before the turn of the century, the radio didn't take off as a communications medium until the 1920s, giving rise to live news and entertainment programs. The radio would prove to be a galvanizing force during World War II, and it continues today to play a vital role in disseminating information.
- New portable, battery-less radios that operate by cranking a small handle on the side to generate electricity allow anyone in the world to listen in, helping make the radio probably the most accessible communications device on the planet.

Automobile

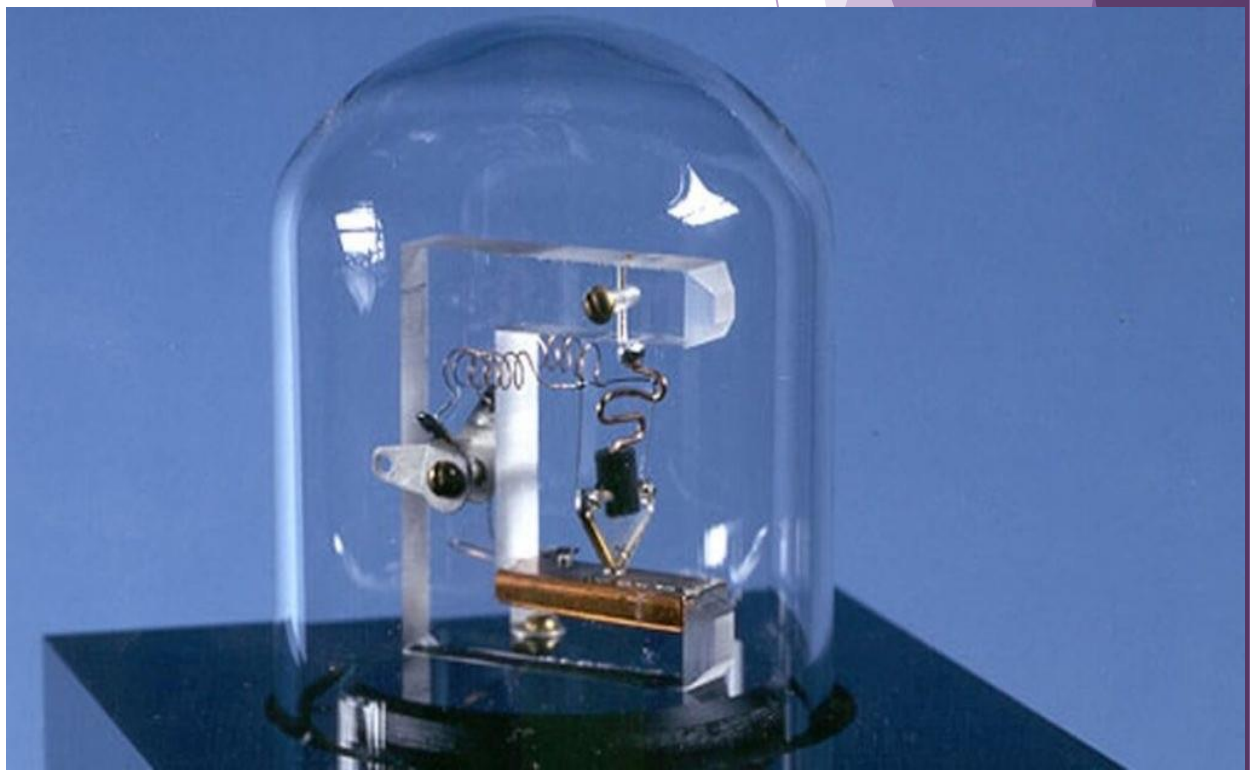
- Undoubtedly, the car is one of the most revolutionary developments of the century.
- Its origins lie in the combustion engine, a 19th-century invention whose overall impact was not fully exploited until Henry Ford devised a system of mass production for the Model T in 1908.
- After the introduction of division of labor and the assembly-line system, affordable cars were churned out, leading to dramatic changes in society.
- Mass transportation has linked people together by joining rural areas to urban centers, and is a primary contributor to the world economy.
- Ford's assembly line was later made more efficient with the use of robots, machines that could mimic human tasks.

Television

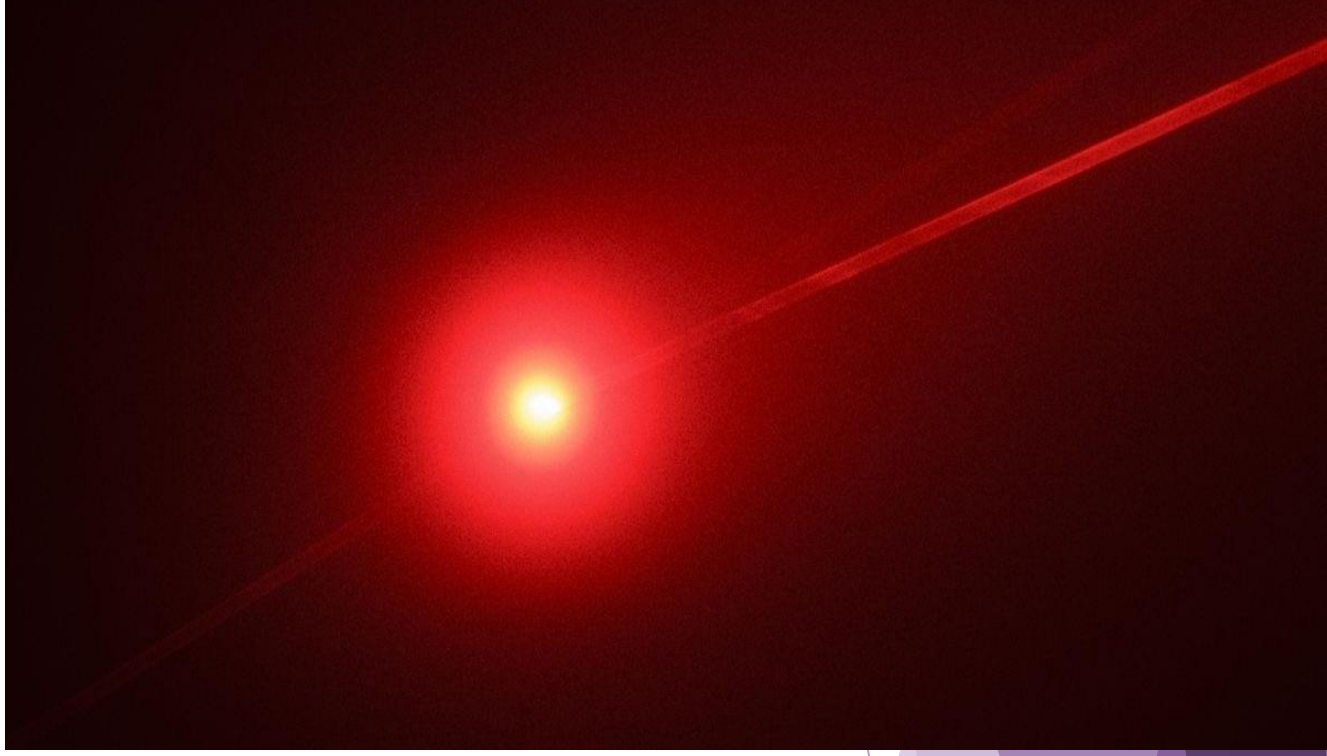
- While televisions weren't widely owned until the 1950s, the basic technology was invented earlier in the century as scientists tested the properties of vacuum tubes.
- Even though it didn't spell the demise of radio, TV has probably had the most impact of any communications device during the 20th century. Just three households had TV in 1928 when television broadcasting made its debut; today the world boasts roughly 1 billion sets.
- Not only does it entertain, but it has radically transformed how we gather our news and information, bringing viewers closer to events as they happen.

Transistor

- The transistor gave birth to the digital age.
- Without it, we wouldn't have the personal computer, the CD player, the fax machine and countless other devices.
- Developed in 1947, the transistor replaced hot, bulky vacuum tubes, and was the precursor of the now ubiquitous semiconductors and silicon chips embedded in the compact appliances we commonly use.
- By 1958 the first integrated circuit — a cluster of transistors on a single silicon chip — was created, heralding the age of modern computing.



Laser



- Laser technology (Light Amplification by Stimulated Emission of Radiation) was invented in 1960 by American physicist Theodore H. Maiman. Generated from solid crystals, liquids or gases, laser beams now permeate our daily lives.
- In the medical field, lasers have replaced the scalpel in certain types of surgery.
- Supermarket scanners use them to read bar codes, while CD players wouldn't work without them.
    - Lasers have also changed the face of modern warfare; laser-guided missiles and bombs represent the most accurate means of targeting, thus making warfare more efficient and preventing loss of innocent life

Airplane

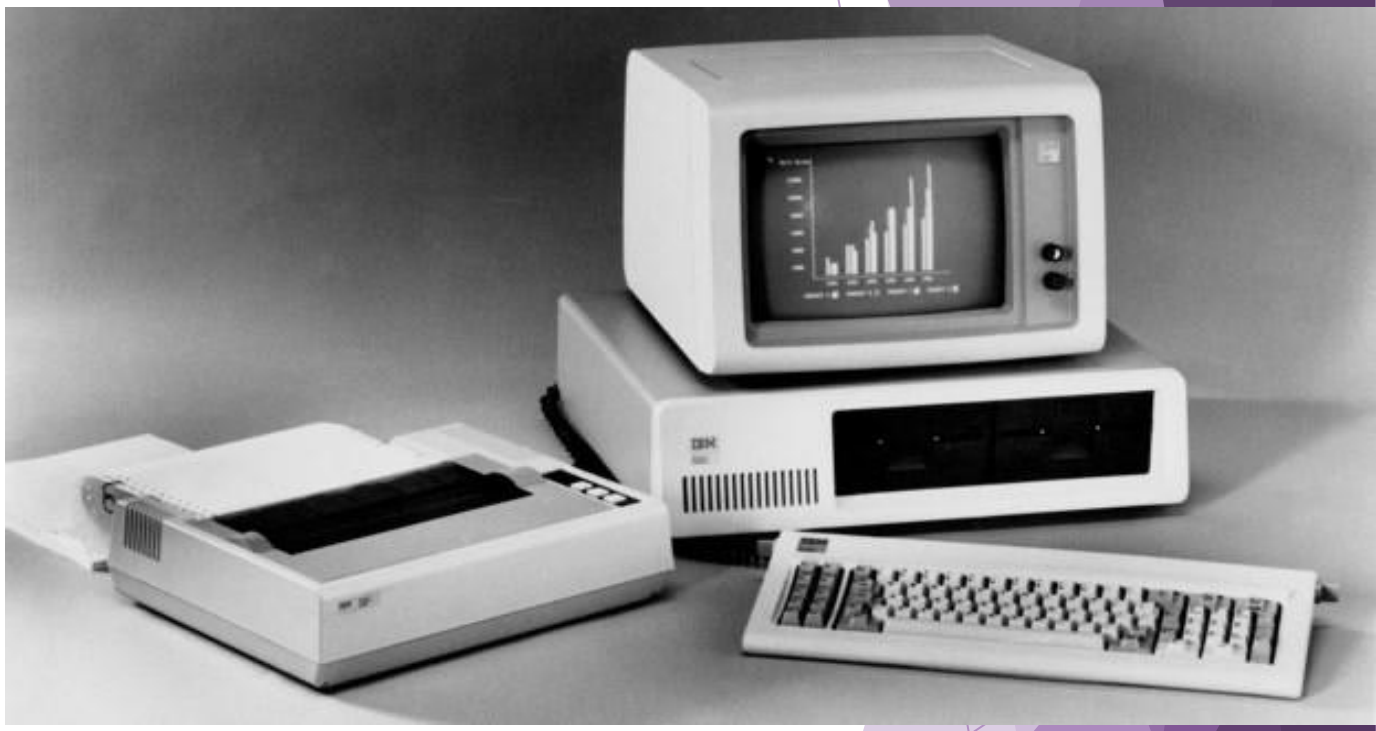
- The Wright Brothers' first-ever flight of a motorized airplane in 1903 spawned the age of flight and much of its attendant technology.
- The jet engine, supersonic flight, fighter aircraft, advanced avionics and space travel all are rooted in Kitty Hawk, N.C., site of the Wrights' feat.
- Their greatest legacy is perhaps a smaller world and a larger global economy, as people and goods take to the air in increasing numbers.

Manned Spaceflight

- The invention of rockets that can launch vehicles and people into space has taught humankind more about the great beyond than ever would have been possible from Earth.
- Space travel has provided a means to deploy satellites, space probes, advanced telescopes (like Hubble) and the planned International Space Station, each wondrous technological achievements in their own right.
- The space shuttle, the first reusable spaceship, ushered in an age of frequent space exploration.

Personal Computer

- Early computers were bulky, tube-powered behemoths.
- But with the development of the microprocessor by Intel in 1971, computers became smaller, easier to use and increasingly affordable.
- Combined with user-friendly operating systems such as Microsoft's Windows or Apple's operating system, the PC has become a dominant tool in the global economy and a mainstay appliance in a growing number of homes.



Wireless Technology

- Pioneered in 1901 when Guglielmo Marconi transmitted a Morse code signal across the Atlantic, wireless communications occur when electromagnetic waves are broadcast to a receiving station.
- Today, cell phones, pagers and satellites enable people to communicate, spy on our enemies, track the weather and circumnavigate the globe with greater precision and ease.

innovations today

How much will we rely on these innovations?

Online streaming

Online streaming would not be possible without the convergence of widespread broadband internet access and cloud computing data centers used to store content and direct web traffic. While internet-based live streaming has been around almost since the internet was broadly adopted in the '90s, it was not until the mid-2000s that the internet could handle the delivery of streaming media to large audiences. Online streaming is posing an existential threat to existing models of delivering media entertainment, such as cable television and movie theaters.

Social media

Tools like Friendster and MySpace entered the scene in 2002 and 2003 respectively, opening the doors for the eventual giant Facebook. Social media is everywhere. Social media connects people and businesses across continents, is a hub for both great and useless information, and has even been a stage for major political movements. Just to put everything into scale, there are currently 7.5 billion people on this planet and 2.89 billion of them can be found on some sort of social media platform. Social media is going to be around for a while.

Smartphone

Combining a phone and a computer was a dream for years. There had been previous attempts to accomplish the feat, but it was really only the iPhone that managed to do it seamlessly. The first iPhone came out in 2007. The idea took off very quickly after that and companies like Blackberry, Samsung and Huawei soon followed. Smartphones have changed so much for individuals in terms of how we communicate, bank, order food and so on.

Cryptocurrency

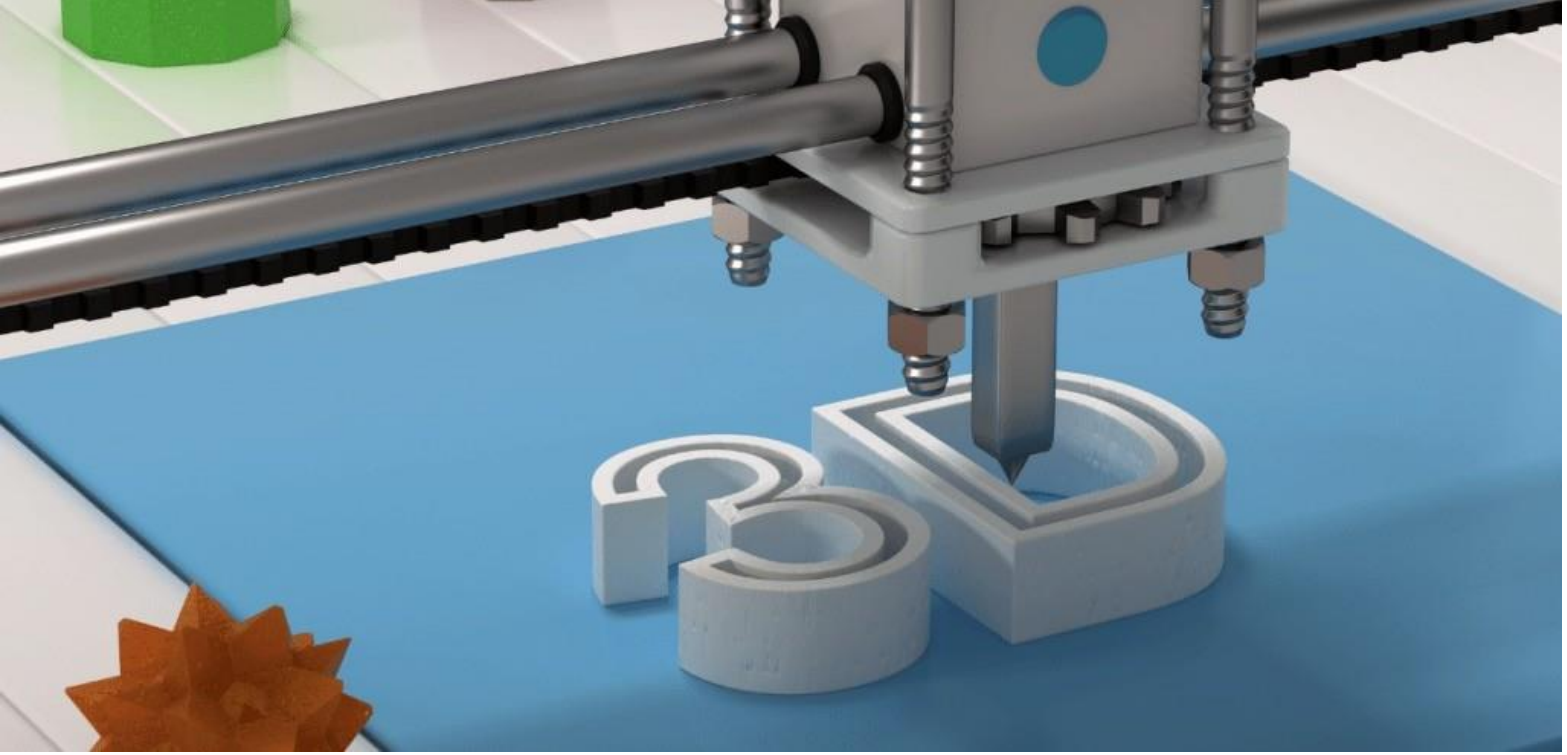
The idea of a decentralised virtual currency came out after the economic crisis hit the world in 2008. People stopped trusting banks and the idea of an immutable and unhackable online ledger system seemed to be the solution. Bitcoin was invented in 2009 and it has been becoming the preferred payment option in so many industries in the past few years. Now there are thousands of different cryptocurrencies, some more popular than others.

AR and VR

People have been obsessed with immersing themselves in an imaginary world for a long time. Finally, computer processors are good enough to create this world for individuals with the help of virtual reality goggles. Major electronics manufacturers are all producing VR headsets and slowly they are becoming more affordable for people. Augmented reality is used even more often. Thinking of just two examples, Pokemon Go and Snapchat where virtual layers are added to real-life objects have been really big hits in the past ten years. Both systems are being used in education, health care, travel and entertainment.

Electric cars

Tesla has brought self-driving cars and now other manufactures like Volvo are following suit. Electric engines are of the future and already new houses are being built with a charging station built in the garage. Recent breakthroughs in battery technology suggest that charging time will be reduced to just a few minutes and cars will be able to cover a larger range with a single charge.



3D printing

Most inventions come as a result of previous ideas and concepts, and 3D printing is no different. The earliest application of the layering method used by today's 3D printers took place in the manufacture of topographical maps in the late 19th century, and 3D printing as we know it began in 1980. The convergence of cheaper manufacturing methods and open-source software, however, has led to a revolution of 3D printing in recent years. Today, the technology is being used in the production of everything from lower-cost car parts to bridges to less painful ballet slippers and it is even considered for artificial organs.

Gene editing

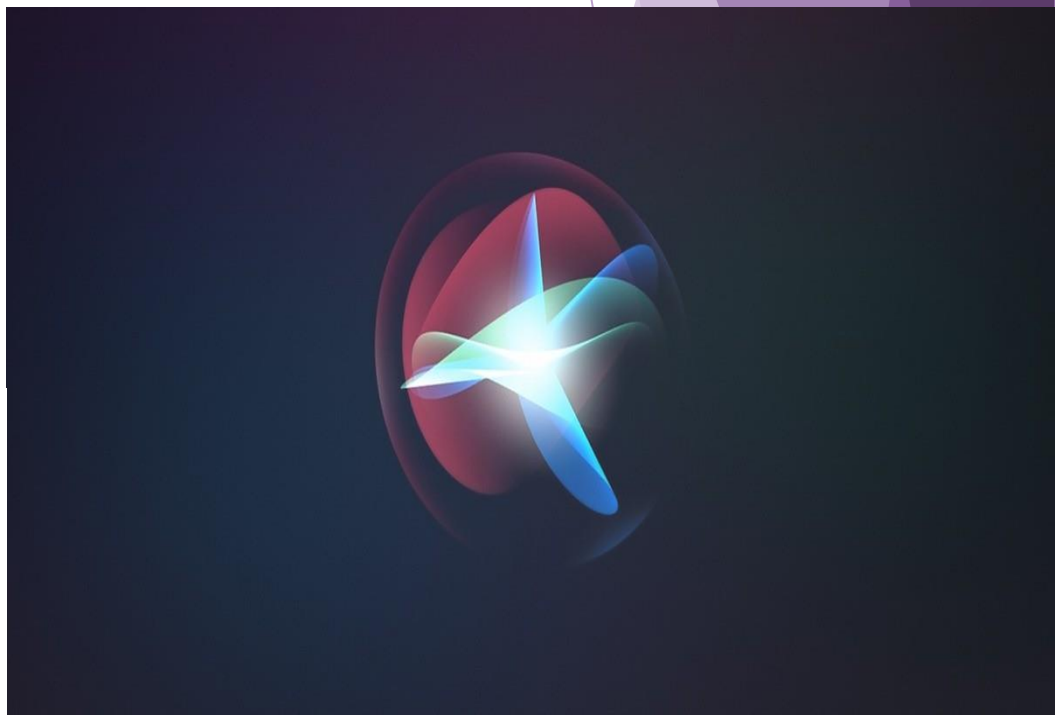
Researchers from the University of California, Berkeley and a separate team from Harvard and the Broad Institute independently discovered in 2012 that a bacterial immune system known as CRISPR (an acronym for clustered regularly interspaced short palindromic repeats) could be used as a powerful gene-editing tool to make detailed changes to any organism's DNA. This discovery heralded a new era in biotechnology. The discovery has the potential to eradicate diseases by altering the genes in mice and mosquitoes to combat the spread of Lyme disease and malaria but is also raising ethical questions, especially with regards to human gene editing such as for reproductive purposes.

Capsule endoscopy

Advancements in light emitting electrodes, image sensors, and optical design in the '90s led to the emergence of capsule endoscopy, first used in patients in 2001. The technology uses a tiny wireless camera the size of a vitamin pill that the patient swallows. As the capsule traverses the digestive system, doctors can examine the gastrointestinal system in a far less intrusive manner. Capsule endoscopy can be used to identify the source of internal bleeding, inflammations of the bowel ulcers, and cancerous tumors.

Digital assistants

One of the biggest technology trends in recent years has been smart home technology, which can now be found in everyday consumer devices like door locks, light bulbs, and kitchen appliances. The key piece of technology that has helped make all this possible is the digital assistant. Apple was the first major tech company to introduce a virtual assistant called Siri, in 2011, for iOS. Other digital assistants, such as Microsoft's Cortana and Amazon's Alexa, have since entered the market. The assistants gained another level of popularity when tech companies introduced smart speakers. Notably, Google Home and Amazon's Echo can now be found in millions of homes, with an ever-growing range of applications.



Not just technology

The success of Airbnb's business model is based on a resource-light cost structure.
It found an innovative way to partner with owners of properties with empty rooms to help them monetize them.

In 2018 the Hyundai Research Institute (HRI) reported that BTS generates 4 trillion won ($3.54 billion) for the country per year and 1.42 trillion won ($1.26 billion) as added value per year. BTS' contribution to South Korea's GDP is similar to Korean Air

In 2020 South Korea's Ministry of Culture, Sports and Tourism and Korea Culture and Tourism Institute estimated the economic impact of BTS' entry at 1 in Billboard Hot 100 with "Dynamite": ₩1.7 trillion with ₩1.23 trillion in production sector and ₩480 billion in added value. 7,928 more jobs were also estimated to have been created.

According to HRI, 796,000 foreigners visit South Korea annually because of BTS. Out of the 10.41 million people, 7.6% of the visits in 2017 were influenced by the Korean group. HRI also stated that one in every thirteen foreign tourists visited South Korea in 2017 thanks to BTS

Analysts estimate that the Eras Tour will likely surpass the $1 Billion mark next March, while Swift is touring internationally. If this projection holds true, she will achieve the milestone of the biggest tour in music history

The Eras Tour is projected to generate close to $5 billion in consumer spending in the United States alone. “If Taylor Swift were an economy, she’d be bigger than 50 countries,” said Dan Fleetwood, President of QuestionPro Research and Insights

Source: https://time.com/6307420/taylor-swift-eras-tour-money-economy/

What is innovative entrepreneurship?

innovative entrepreneurship

Innovative entrepreneurship is the practice of creating new ideas for business

An entrepreneur is someone that creates business, often new and different business, therefore often with more risk and rewards.

Innovation is the process of making changes to something established by introducing something new

https://www.alps.academy/business-english-phrases/

Innovative Entrepreneurship Theory and Practice

DIN111 (888111) 3(3-0-6)

111 Innovative Entrepreneurship
Theory and Practice

Dr. Séamus Lyons

Lessons: Monday & Thursday

Nov 11th to Mar 21st

2.30pm – 4pm

Dr Séamus Lyons

Assistant Professor Computer Science
Qualfied English Teacher

Chiang Mai

International College of Digital Innovation

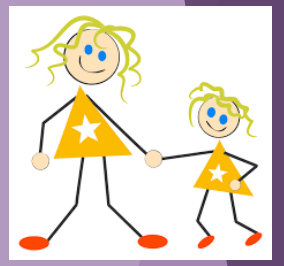
history

I come from Ireland

I worked near London

I now live in Thailand

I am married with two daughters



I am a vegan & like Thai food

I like sport

I make videos on YouTube

Course Details

Course Grading

Attendance		15%
Project & Pitch		40%
progress report before midterm	15%	
final report before final	15%	
pitch	10%	
Mid-Term Exam		20%
Final Exam		25%

Course Structure

Monday – theory, Thursday - practice

- theoretical and practical experience for students in the development of innovative entrepreneurship

Assignment Project – group work

- students will work in teams to develop their own start up, from ideation to business plan to pitches

	M	Th	Monday	Thursday
1	11-Nov-24	14-Nov-24	Course introduction	core values
2	18-Nov-24	21-Nov-24	innovative entrepreneurship	empathy maps
3	25-Nov-24	28-Nov-24	opportunities	personas
4	2-Dec-24	5-Dec-24	dynamic innovation	Fathers day
5	9-Dec-24	12-Dec-24	competitive advantage	SWOT analysis
6	16-Dec-24	19-Dec-24	mission statement & report writing	mission statements
7	23-Dec-24	26-Dec-24	review	Christmas
	30-Dec-24		reading week	
	6-Jan-25		midterm exams	

	M	Th	Monday	Thursday
8	13-Jan-25	17-Jan-25	prototyping - storyboard	business model canvas
9	20-Jan-25	24-Jan-25	business plan - mind maps	business plan - mind maps
10	27-Jan-25	31-Jan-25	constructing a business	project groups
11	3-Feb-25	7-Feb-25	pitch & project	project groups
12	10-Feb-25	14-Feb-25	marketing	marketing
13	17-Feb-25	21-Feb-25	finances	finances
14	24-Feb-25	28-Feb-25	review	pitches
15	3-Mar-25	7-Mar-25	pitches	pitches
	10-Mar-25		final exams	
	17-Mar-25		final exams	

Course Notice

Attendance is mandatory.

- Students are expected to have 100% in-class attendance.
- Students must attend both the midterm and final exams.
- scoring assessment range from A to F grades.

see syllabus

https://www.alps.academy/innovative-entrepreneurship-course-details/

Project

Group project

Students are required to form groups

(5 students)

Group project

Students are required to create works relating to an innovative business idea.

These works will form a portfolio and must be submitted with a final report.

The business should be feasible and show innovation.

Groups will also pitch their business idea.

Group project

- All group members should contribute and be **present for their pitch**.

- Complete two (2) written **academic reports**:
  - one progress report
  - one final report

- Reports must have
  - an introduction and a conclusion
  - work cited and referenced correctly

Group project

- Group members are responsible for group meetings, deadlines and contributions
- Group members receive the same mark
- AI and plagiarized work is given a zero (0%) mark – **DO NOT CHEAT**

project - Innovation product or service

Project: Progress Report 15%

submission date : progress report 27th December (Friday week 7)

includes: portfolio work (next slide)

Project: Final Report 15%

submission date : final report 7th March (Friday week 15)

Project: Pitch 10%

pitches: 27th February, 3rd & 6th March (Thurs/Monday/Thurs weeks 14 & 15)

project 1 progress report includes these works

Project: Progress Report 15%

includes:

introduction – explain the business

group – values, vision and mission statement

customer analysis – empathy map / personas

business analysis - SWOT & TOWS analysis

this is an academic progress report *(explained in week 6)*

	M	Th	Monday	Thursday
1		14-Nov-24		core values
2		21-Nov-24		empathy maps
3		28-Nov-24		personas
5		12-Dec-24		SWOT & TOWS analysis
6		19-Dec-24		values, vision & mission statements

Group project

- Groups are required to present their projects in a written report and a pitch
- The assignment will involve several pieces of work
- In a group, you should **start developing your business ideas….**

Group project

The Need

- What is the need you are solving for?
- Who has this need? Who is the target market? How big is this market? Is it growing?
- How is this an opportunity? Why is this an opportunity worth pursuing?

Group project

Product or Service Solution

- What is the product or service?
- Who are your competitors and how is your solution different?
- How will you make a profit? What is your business model?

Group project

Goals

- How much do you estimate the business can make? How did you arrive at this projection?
- What do you need to get started financially, socially, and otherwise?
- How and when do you plan to start your business? What is your action plan?

Audience “Call to Action”

- What can the audience do to help you get started?
- Do you have immediate needs (e.g., capital, equipment, expertise, word-of-mouth advertising, etc.)?
- How can the audience fulfill these needs and get involved right away?

Group project

You will be evaluated primarily

not on your business idea

but how you present the idea

and how the feasibility its success

Using AI

Artificial Intelligence (e.g. Chat GPT)

may not be used in graded parts of the course,

e.g. assignments and exams.

Students caught cheating will be subject to

CMU disciplinary procedures

which could lead to failing the course

or being dismissed from the University.

summary

- The assignment will involve a group project for a proposed business idea idea based on an innovation
- The innovation can be any new product, process, or service idea (or combination of these)
- You should use the material taught in the class
- Students are required to present their projects in written report(s) and a pitch

groups

You can choose your own groups, or you will be assigned to a group

Deadline for sending your groups to me:

Friday 29th November 2024

ideas

students

1. cannabis drink – relax students
2. phone app for CMU students information needs
3. power bank provider
4. cleaning service (elderly / students)
5. CMU bus service app

sustainability

1. print paper from discarded coffee beans
2. free water – bottle advertising
3. environmental packing ‘peanuts’ (plant-based)
4. Ginseng soaking water drink (energy)
5. wireless electric cars charging station service

other

1. exporter of Thai goods
2. umbrella venting machine
3. app for home services (cleaning, housework, decorating etc.)
4. power bank provider

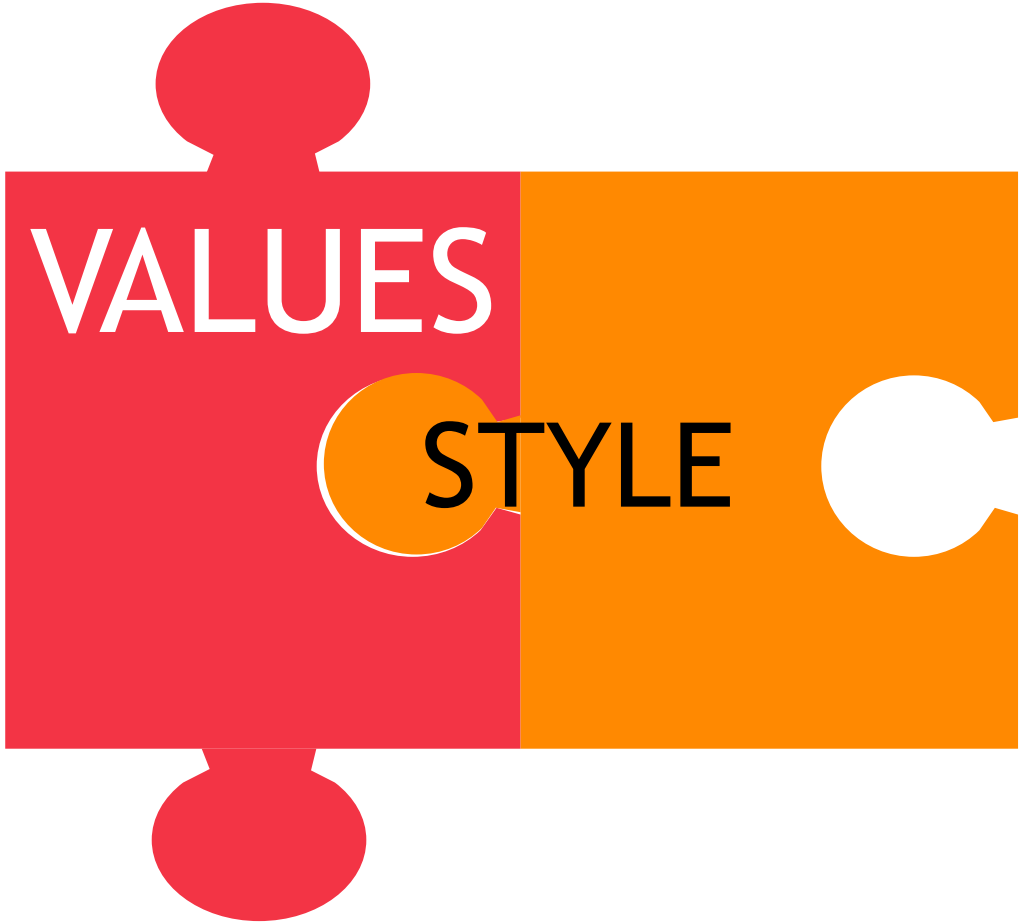
solve issue

1. Cat brush that helps reduce allergies
2. seller products to help good sleep
3. seller quality pillow (digital – alarm)

Group project

Groups will complete a portfolio

Part 1 - by midterm



What type of person are you?

Type of Organization

Business Values

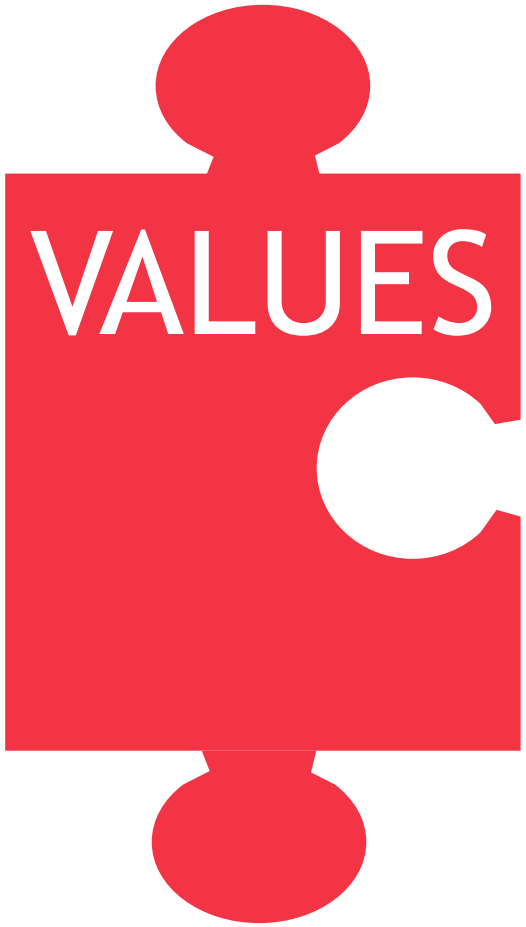
Vision

Mission

goals

YOU

what are your core values?



5	Control
41	Creativity
9	Decisiveness
33	Family
18	Determination
31	Teamwork
7	Efficiency
11	Self-Reliance
15	Growth

24	Mastery
40	Beauty
26	Excellence
12	Respect
27	Health
38	Fun
50	Equality
14	Patriotism
23	Calmness

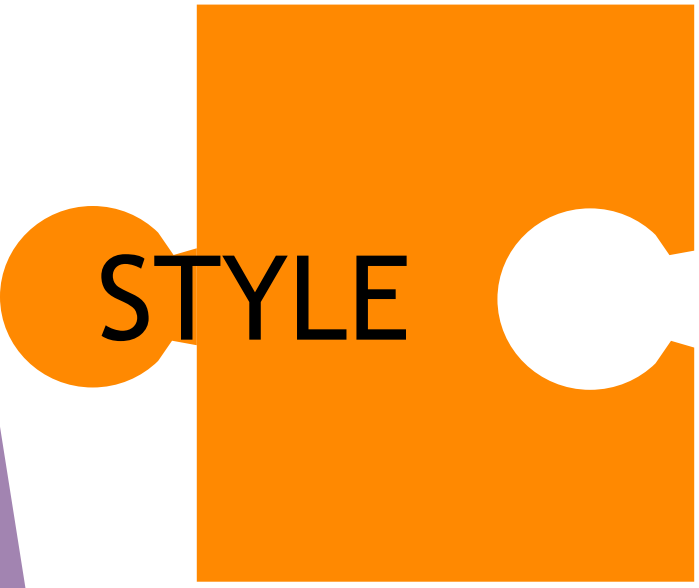
37	Passion
4	Professionalism
13	Leadership
30	Collaboration
22	Reliability
48	Happiness
34	Friendship
21	Loyalty
45	Adventurousness

25	Knowledge
3	Accountability
35	Simplicity
8	Structure
17	Competitiveness
44	Curiosity
6	Rationality
29	Communication
42	Challenge

20	Trustworthiness
28	Global view
16	Success
36	Ambition
1	Money
39	Freedom
46	Generosity
51	Faith
10	Justice

47	Love
2	Minimalism
54	Diversity
32	Community
43	Risk-taking
49	Empathy
19	Honesty
52	Spirituality
53	Fairness

what is your leadership style?



[A1] It's now time to share your idea.

In sharing the idea that you feel will be very successful with your team you will

1. express your energy through moving around and facial expressions.
2. keep calm and composed.

[A7] Having completed the project your team must fill out peer evaluations forms. You expect that your team members will describe you as

1. playful and fun-loving.
2. serious and thoughtful.

[B5] The team and your business has been recognized by the directors of the Academy as a model project. You

1. are disappointed that the directors did not recognize you personally for the original idea.
2. congratulate your team members for making the business what it is through all their efforts.

customer analysis

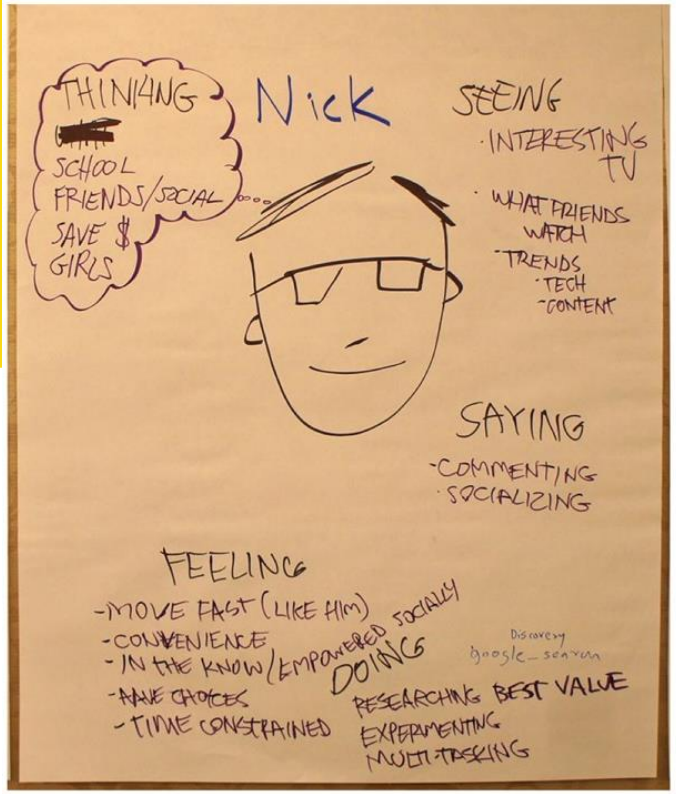
target customers

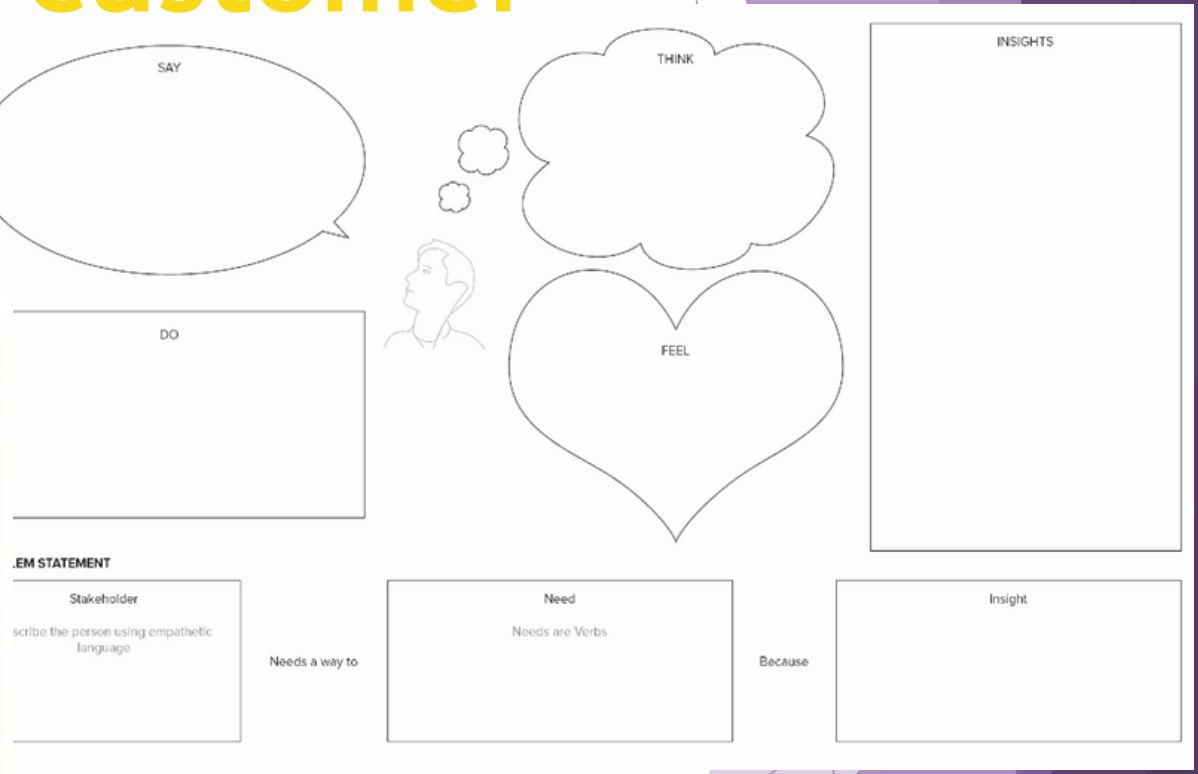
understand your customer

CUSTOMER

understanding your customer

EMPATHY





customer personas

Clark Andrews

AGE 26
OCCUPATION Software Developer
STATUS Single
LOCATION San Jose, CA
TIER Experiment Hacker
ARCHETYPE The Computer Nerd

Friendly | Clever | Go-Getter

"I feel like there's a smarter way for me to transition into a healthier lifestyle."

Motivations

- Incentive
- Fear
- Achievement
- Growth
- Power
- Social

Goals

- To cut down on unhealthy eating and drinking habits
- To measure multiple aspects of life more scientifically
- To set goals and see and make positive impacts on his life

Frustrations

- Unfamiliar with wearable technology
- Saturated tracking market
- Manual tracking is too time consuming

Bio

Aaron is a systems software developer, a "data junkie" and for the past couple years, has been very interested in tracking aspects of his health and performance. Aaron wants to track his mood, happiness, sleep quality and how his eating and exercise habits affects his well being. Although he only drinks occasionally with friends on the weekend, he would like to cut down on alcohol intake.

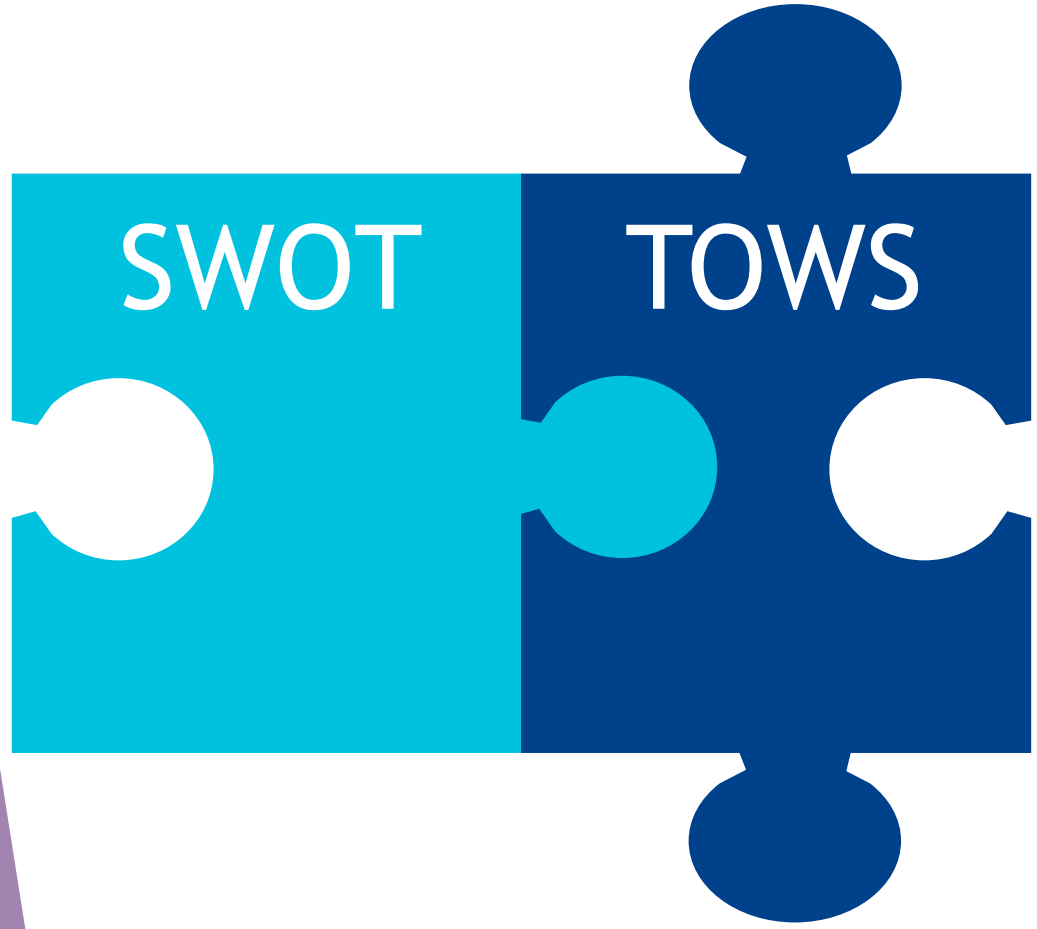
Personality

Extrovert — Introvert
Sensing — Intuition
Thinking — Feeling
Judging — Perceiving

Technology

IT & Internet
Software
Mobile Apps
Social Networks

Brands

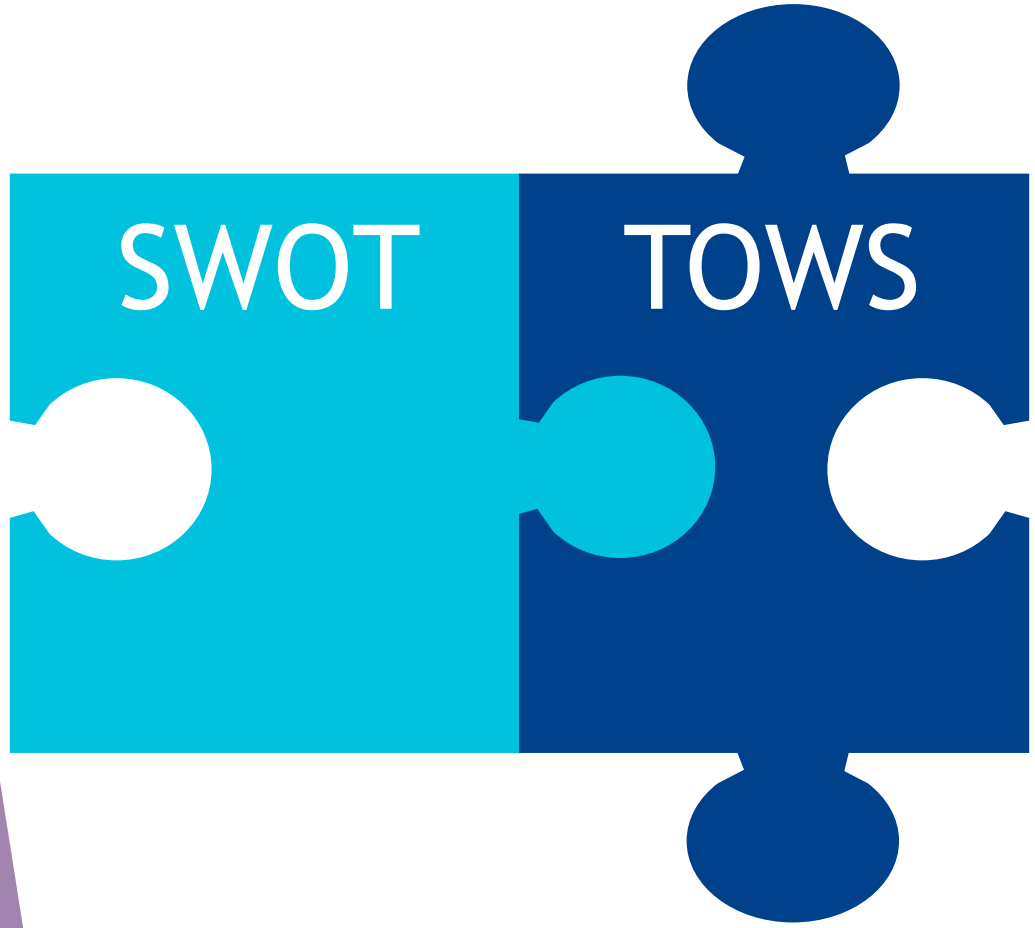


business analysis
evaluation
strengths & opportunities

leads to
competitive analysis
strategy

BUSINESS

SWOT & TOWS analysis



	Helpful to achieving the objective	Harmful to achieving the objective
Internal origin (attributes of the organization)	Strengths	Weaknesses
External origin (attributes of the environment)	Opportunities	Threats

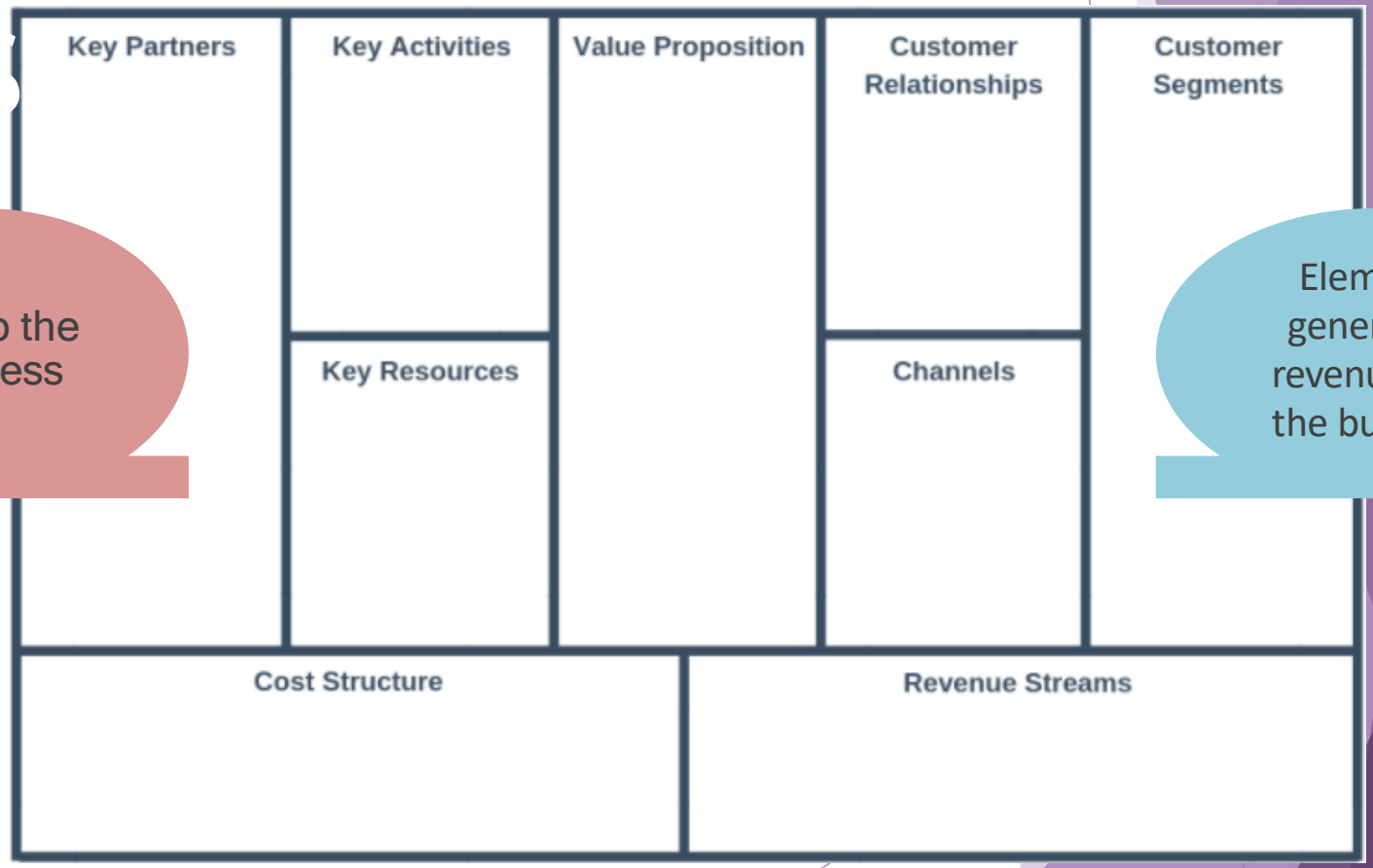
	Opportunities	Threats
	• Global increase in health awareness and popularity of sports • Online sales increasing	• Competitors catching up and innovating • High pricing
Strengths • Market Leader • Global market • Sponsors renowned athletes	**Maxi-Maxi (SO)** • Run health awareness campaigns to boost sales • Increased focus on online sales	**Maxi-Mini (ST)** • Increased focus on reputation and quality to stay ahead (compete) • Continue sponsorships to retain prices
Weaknesses • Profit heavily depends on footwear sales • Occasional complaints over poor working conditions in factories	**Mini-Maxi (WO)** • Focus more on non-footwear items online	**Mini-Mini (WT)** • Invest in newer ideas before competition • Work on further improving working conditions and reputation

Part 2 – after midterm

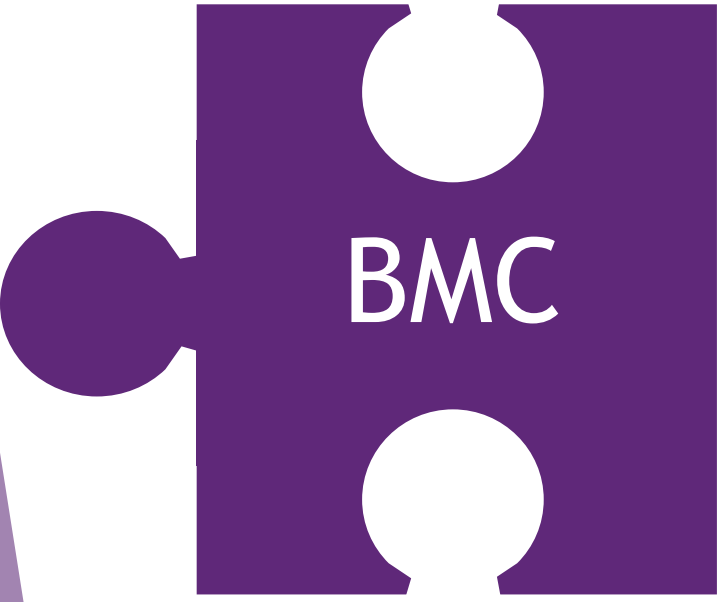
business model canvas

BMC

Cost to the business



Elements generating revenues for the business



overview of your business

Value

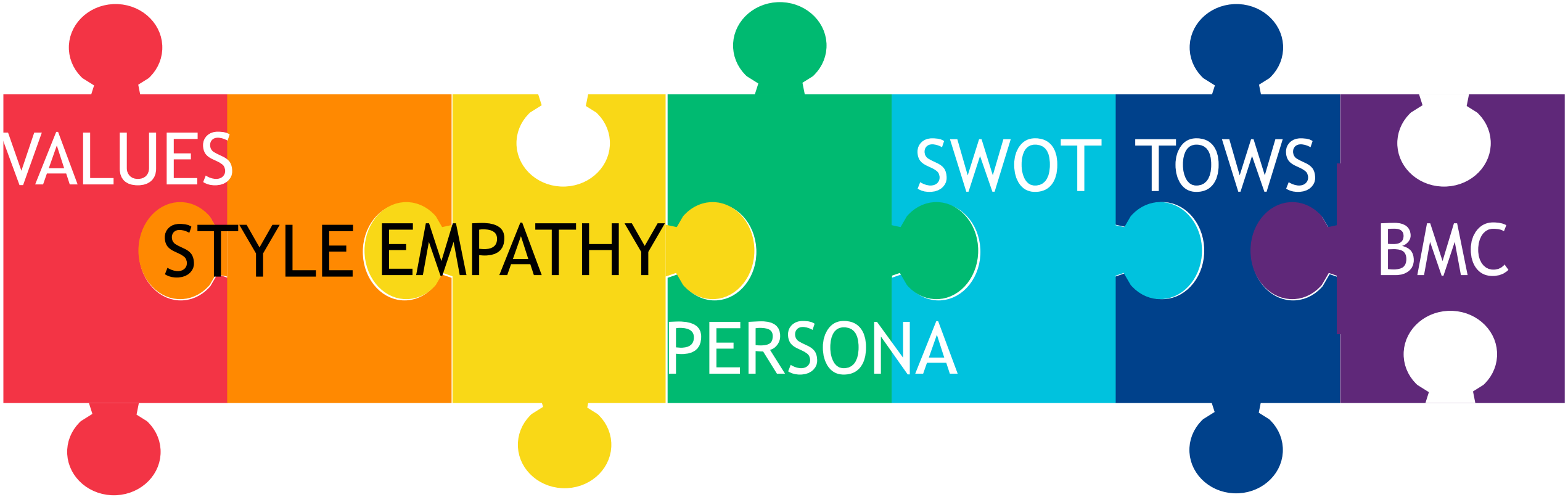
Marketing

Finances

Business Plan

BUSINESS

Portfolio



Business planning

https://www.alps.academy/how-to-do-business-planning/

portfolio

- Company & you - values, style, vision/mission, team roles
- Customers - empathy mapping, personas
- Business planning - SWOT & TOWS analyses, business model canvas, core business plan
- Design / prototyping / MVP (*from personas & plan*)
- Strategies - Marketing , funding, management, legal
- Pitch – sell your plan

portfolio

During the course, you will build an 'innovation portfolio' based on your group business idea, including:

- pitch
- Empathy maps
- Customer personas
- SWOT and TOWS analyses
- Mission statement
- Business model canvas
- Prototype(s)
- Proposed team roles, legal structure, IP protection
- Core business plan
- Marketing ideas
- Core financial information and funding plan

Many new phrases?

If you need simple explanations of business phrases in English see https://www.alps.academy/business-english-phrases/

Entrepreneur

An entrepreneur is someone that creates business, often new and different business, therefore often with more risk and rewards.

Evolve

To evolve is to change over time

Exploit

In business, exploit is to use something (or someone) in a way that makes gains for your own benefit

Fixed costs

Fixed costs are business costs that do not change, such as rent

Imitation

An imitation is a copy of something, or a version that is very similar

Innovation

Innovation is the process of making changes to something established by introducing something new

Innovation reading practice exercise- click here

Thank you!

any questions?