

# **Enterprise Essentials**

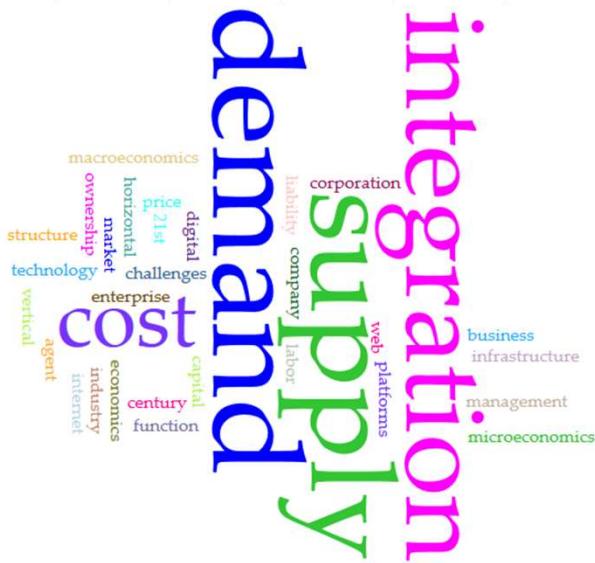
**Class # 5: Managing a business organization – Innovation and Change**

**EPITA, Paris | Fall 2025**

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**Valeriu Petruian**

# Enterprise Essentials Class 5



- Admin
- Thoughts for the day
- Final presentations & Quiz – Q&A

# **Enterprise Essentials**

## **Final presentations & Quiz – Q&A**

Class 6 (next week)

We shall be forming the smaller groups for final sessions () scheduled November 17<sup>th</sup> – 21<sup>st</sup>

Expectations OK? Subjects OK?

You have up until the end of class 6 to discuss subjects with me

**Students who were absent (C1 to C4) and did not yet have a chance to present class assignments, should make all efforts to join the remaining classes, i.e. C5 and C6.**

Quiz :

QUIZ is planned for Nov 14<sup>th</sup>, KB003 (amphi 3), from 13h00 to 13h30

**Access to Teams shall be closed today. Students who are not yet part of the Teams course group will not be able to take the quiz.**

# Course Breakdown

## EPITA | Fall 2025

Class	Date & Time   Topics
Class 1	Setting the scene: The economy and the firm as an economic agent
Class 2	The Business Environment: Industries and Markets
Class 3	Business Dynamics
Class 4	Enterprise & Business Models
Class 5	Managing a business organization 1 – Innovation and change
Class 6	Managing a business organization 2 – Strategy and Decision Making
Class 7	Final Presentations & Course Wrap-Up

**Today's reference:**

**Peter F. Drucker.** *The discipline of innovation.* Harvard Business Review, August 2002 issue

# Managing a business organization I

Innovation

Change Management



WATCH VIDEO: <https://www.youtube.com/watch?v=gcS04BI2sbk>

# Management Introductory Thoughts

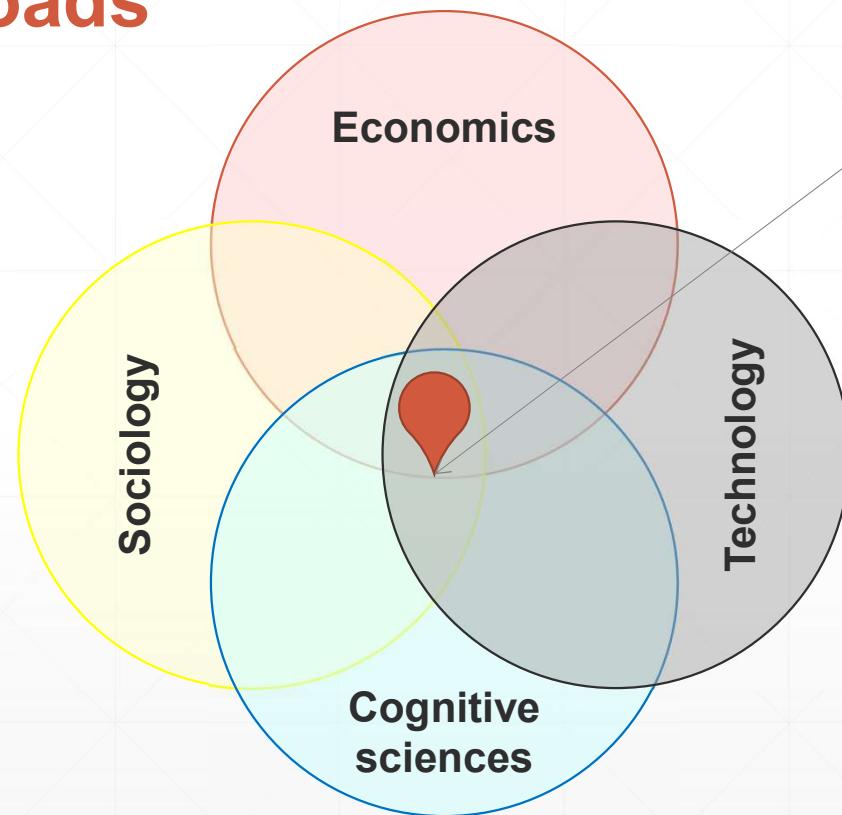


- 21<sup>st</sup> century global challenges, digital revolution, increased globalization and interconnectedness of the economy...
- ... contribute to the fact that management is currently at a crossroads, both as a science and as a practice
- Redefining it calls for understanding its fundamentals and its essential objectives

Further reading:

**Frédéric Laloux.** *Reinventing organizations*. Nelson Parker, 2014.

# Management At a crossroads



WE ARE HERE!



# Management and economics

- The rise of industrial capitalism (end of 19<sup>th</sup> – beginning of 20<sup>th</sup> centuries) has brought to the general attention the role of management in the economic systems
- Types of major influences of economics:
  - The « invisible hand » (Adam Smith)
  - The relationship between capital and labor (Karl Marx)
  - The role of the state (John M. Keynes)
  - The role of the innovative company and of the entrepreneur (Joseph Schumpeter)
- **Discussion:** Are the presented approaches complementary, or are they rather mutually exclusive?

**HOW DOES AN ENTERPRISE FULLY EMBRACE ITS ROLE AS AN ECONOMIC AGENT?**



## Management and sociology

- In this approach, the business organization is a human organization, i.e. composed of individuals
- **Bureaucracy** (Max Weber), is the organizational form most firms tend to implement, as the organization grows.
  - In Weber's view, by applying the same principles to the entire organization, bureaucracy tends to eliminate arbitrariness and abuse of power
- This top-down approach, however, in certain conditions, may be questioned as individuals develop their own strategies to cope with some organizational constraints, notably through negotiation (Michel Crozier, Erhard Friedberg).
  - A bottom-up approach is then more appropriate in understanding the roles of each and every actor within the organization

**HOW DO WE ACHIEVE COLLECTIVE ACTION, i.e. EACH AND EVERY INDIVIDUAL ACTING TOWARDS A COMMON, SHARED, GOAL?**



# Management and cognitive sciences

- An organization may be considered as a problem-solving entity
- However, human rationality is limited in nature, one then speaks of « **bounded rationality** » in an organizational context (Herbert Simon)
  - According to Simon, a manager would tend to make **satisficing** decisions (instead of, for example, profit-maximizing decisions)
- Furthermore, an organization may be seen as a « *set of individuals or groups of individuals, with a common goal, but whose preferences, information, interests and knowledge may diverge* » (James March and Herbert Simon)
  - From a cognitive standpoint, these divergences may take the form of **biases**, the role of management is then to limit the impact of such biases in the decision-making process (Daniel Kahneman)

## WHAT IS A « GOOD » DECISION? WHAT IS « OBJECTIVITY » AND « SUBJECTIVITY » IN DECISION-MAKING?



# Management and technology

- Technology was first considered to be as a factor of production
  - **Steam engine** has replaced human physical work, **electricity** has allowed for the rise of the modern corporation
  - **Information technology** (ie. the combination of telecommunications and computer networks) has allowed a better spatial and temporal organization of human work
    - **Information systems** allow the coordination of immaterial flows within the organization
  - **Digital technology**, rendered ubiquitous by the rise of the internet, the massive adoption of the world-wide-web and the combination of artificial intelligence and biotechnologies for example, has become the next technology frontier
    - Today, technology shapes organizations at an unprecedented pace

**WHAT ROLE DOES INFORMATION PLAY IN MANAGERIAL ACTIVITIES, SUCH AS DECISION-MAKING?**

**IS « more » DATA the same thing as « more » INFORMATION ?**

# Management Definitions

- **Oxford English Dictionary** – “the act of running and controlling a business or similar organization”
- **Frederick W. Taylor** – « A mental revolution »
- **Henri Fayol** – « Anticipation, organization, command, coordinate, control »
- **Peter Drucker** – « Something that deals with humans. Maximize collective efforts, make individuals more efficient, minimize individual weaknesses »
- **Henry Mintzberg** – « A process through which those who have the formal responsibility of the whole, or parts, of the organization, try to direct it or, at least, guide it in its action »

## Important distinction:

- Team management
- Enterprise (or organization) management



## Why do managers exist?

- To keep the enterprise afloat the agitated ocean of the global economy
- To represent (speak for and in the name of) the enterprise, internally and externally
- To « organize, command, and control »
- To guide the organization towards delivering products and services that meet the ever-changing expectations of the “market”
- To constantly adapt his/her organization
- To make decisions
- ... to meet goals

# **Enterprise Essentials**

## **Managing a business organization**

We shall focus the remaining classes on the following management practices:

- Class 5:
  - Innovation
  - Change
- Class 6:
  - Strategy
  - Decision Making

# In the Digital Economy ... ... technology is all around us

HOME



LP record 1950



Audio cassette 1970



Audio CD 1980



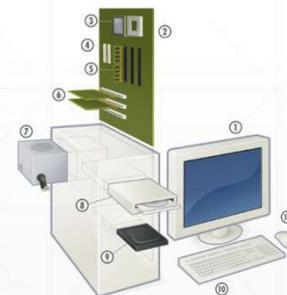
Audio streaming 2000

OFFICE



Mainframe computer  
1950

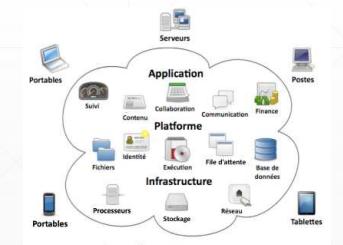
Source for all images: Wikipedia



Personal Computer  
1980



Smartphone 2000



Cloud computing  
2010

# Innovation Class Discussion



- What did it take to change from:
  - LP record to Audio cassette
  - Mainframe computer to Personal Computer
- How would you define innovation?
  - Technology?
  - Market?
  - Organization?
  - Self?

# Innovation Definitions

The classic definitions of **innovation** include:

- *the introduction of something new.* (Merriam-Webster Online)
- *a new idea, method or device.* (Merriam-Webster Online)
- *the successful exploitation of new ideas* (Department of Trade and Industry, UK).
- *change that creates a new dimension of performance* Peter Drucker (Hesselbein, 2002)

In economics, business and government policy,- something new - must be substantially different, not an unimportant change. In economics the change must increase value, customer value, or producer value. Innovations are intended to make someone better off, and the succession of many innovations grows the whole economy.

Source: Wikipedia.

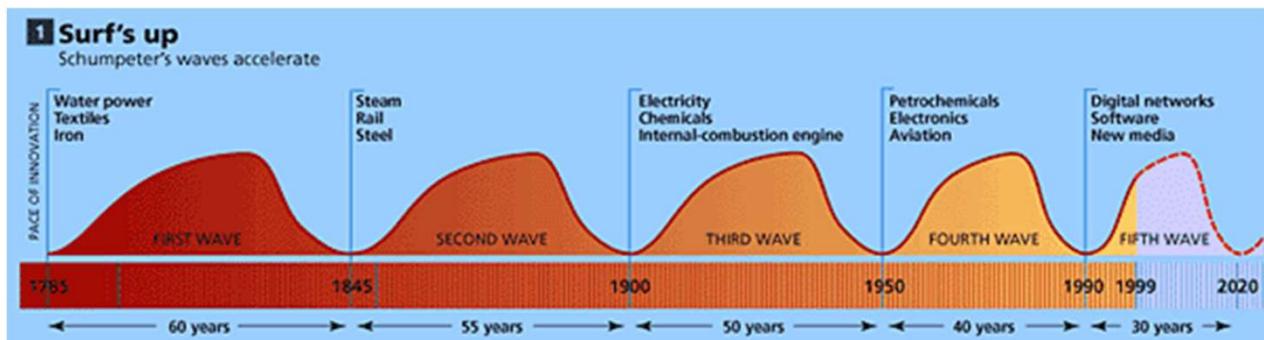


Illustration: Catch the wave, published by The Economist, 1999. <http://www.economist.com/node/186628>

## Innovation

Refinement and development of an original invention into a usable technique or product.

While innovation was initially referring to products (tangible goods), in recent years, the concept has been extended. According to Joseph A. Schumpeter (1942) there are 5 sources of innovation:

1. Manufacturing of new products
2. New production methods
3. Opening new markets
4. Utilization of new raw materials (inputs)
5. Implementation of a new division of labor

# Innovation | Why innovate, at all?

## Reason # 1: Because times are changing

**Today's Economy  
21<sup>st</sup> Century Challenges**



Choice of topics for our lecture:

Climate Change	
Globalized Economy	Urban Transition
Labor Evolution(s)	Rising Services Economy
Emerging Economic Models	The Information Society
Today's Digital Economy	

Excerpt from « Enterprise essentials » course – Class 1

# Innovation | Why do organizations innovate?

## Reason 2: To keep up with a changing world

The infographic is titled "The need for innovation" and contains six numbered points, each with a small hexagonal icon and a brief explanatory text.

- 01 CHANGING FUNCTIONS**  
*In an environment of change, governments must also change how they operate*
- 02 RUN TO STAY IN PLACE**  
*In an evolving economy, governments have to change policy settings just in order to maintain the same outcomes*
- 03 NO ROOM FOR SPECTATORS**  
*In order to remain effective decision-makers, governments have to have experiential knowledge of innovation; they cannot wait for the answers*
- 04 WE WANT MORE**  
*Many politicians, citizens and public servants want and expect things to change*
- 05 RISK OF A MISMATCH**  
*A government that does not innovate is one that is at risk of always being behind, always reacting yet forever disappointing*
- 06 INNOVATION AS CORE COMPETENCY**  
*The need for innovation can strike anywhere; therefore everyone must be ready to play a part*

OPSI

**Source:** OECD OPSI article by Alex Roberts, 31<sup>st</sup> January 2019  
<https://oecd-opsi.org/why-innovation-matters-more-now-than-ever-before/>

# Innovation | Why do firms innovate? Reason # 3: To stay alive

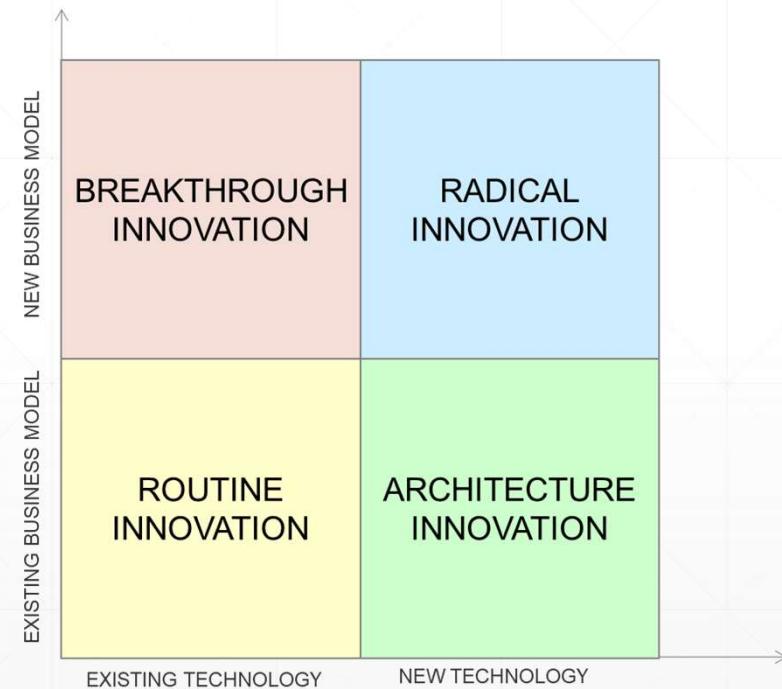
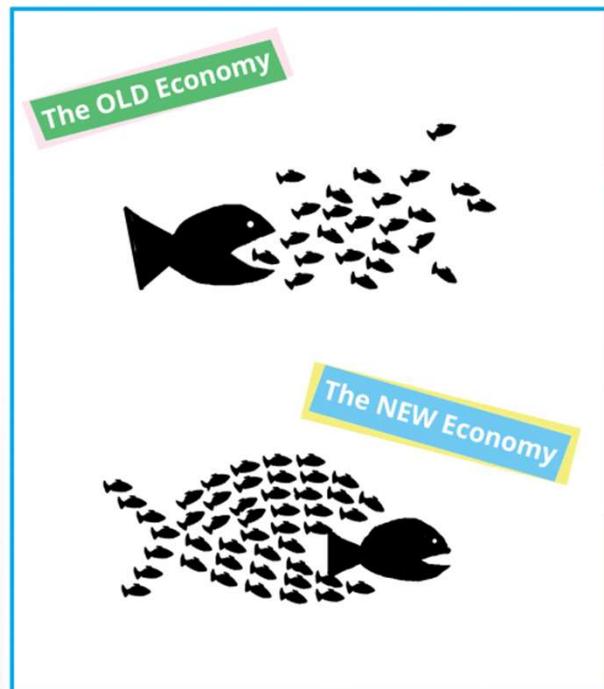


Image source: <http://www.bubbleboxmedia.com/corporate/wp-content/uploads/2015/08/New-vs-Old-economy-e1440012217813.png>

# Innovation | An Overview

## Type 1: Routine (incremental) innovation

- Routine innovation is about improving incrementally existing products, technologies, or processes, constantly and repeatedly, over time
- Examples:
  - Intel microprocessor chipset family x86
  - Windows operating system versions 8 vs 7
  - Pixar 3D movie series « Toy Story » 2 vs 1

# Incremental Innovation

## ORIGINS

- Internal to the company
- Existing product, service, production or delivery method
- It's the “bread and butter” of all companies

## WHAT IT TAKES TO SUSTAIN IT

- Continuous improvement process
  - Such as: TQM
  - Versioning (i.e. Product Roadmap)

# Incremental Innovation

## The role: Product Manager

- “**Product managers** are responsible for ensuring that a product meets the needs of its target market and contributes to the business strategy, while managing a product or products at all stages of the product lifecycle (introduction, growth, maturity, saturation and decline). Software product management adapts the fundamentals of product management for digital products” (source: Wikipedia)
- Mainly, a Product Manager is responsible for:
  - The Product’s design (its adequacy to customer’s needs)
  - Product strategy (launch, advertising, pricing, evolution, ...)
  - Product Roadmap
- In software: Version Manager, Release Manager

# Innovation | An Overview

## Type 2: Architecture Innovation

- Architecture innovation is about a major technology change
- Examples:
  - Personal computers (as compared to mainframe computers)
  - Smartphones (as compared to 2G traditional feature phones)

# Architecture Innovation

## ORIGINS

- Internal to the company if the company has a dedicated engineering (R&D) department, external if not
- New product, service, production or delivery method
- It's a longer term process than incremental innovation, it requires a vision and the ability to execute upon

## WHAT IT TAKES TO SUSTAIN IT

- Research & Development, Engineering
- Proofs of Concepts, Prototyping, Design workshops

# Architecture Innovation

## The Role: The Engineer

- Engineers design technical products based on underlying State of the Art scientific and technical principles, concepts and artefacts
- They elaborate specifications, which meet the requirements
- They elaborate architectures, which support the products
- They elaborate the means and methods which will ultimately produce the final product, thereby meeting 3 criteria:
  - Human Desirability
  - Technical Feasibility
  - Economic Viability

# Innovation | An Overview

## Type 3: Breakthrough Innovation

- Breakthrough innovation is about finding new markets, perhaps new business models, without necessarily a major technology leap
- Examples:
  - Open source software (for established software companies)
  - Shuttle services (for traditional taxi companies)
  - Online selling (for traditional resellers)

# Breakthrough Innovation

## ORIGINS

- External to the company, it means taking advantage of new market trends, changes in customer behaviors, buying patterns, ...
- Relies on market research
- It's, very often, the province of small, new firms, rather than of large, established companies

## WHAT IT TAKES TO SUSTAIN IT

- Market Research
- Continuous interaction and feedback with the target customer groups, through events, campaigns, etc

## Innovation | An Overview

### Type 4: Radical Innovation

- Radical innovation is about changing two paradigms simultaneously: business model and technology
- Examples:
  - Music streaming services (as compared to traditional CD-based music industry)
  - Cloud services (as compared to software-hardware)

# Incremental Versus Radical Innovation Discussion

Incremental innovation	Radical innovation
continuous (linear improvement of value acquired by the customer)	discontinuous (with or without predecessor; essential, nonlinear improvement obtained by the customer)
based on old technology	based on new technologies
dominant design unchanged	leads to a new dominant design
does not lead to a paradigm shift	can lead to a paradigm shift
implies a low level of uncertainty	implies a high level of uncertainty
improvement of existing characteristics	introduces a whole new set of performance features
existing organization and qualifications are sufficient	requires education, new organization and skills
the result of a rational response or necessity	result of chance or R & D policy, not necessity
driven by market pull (important in the advanced stage of technology)	driven by technology (important in the early stage of technology)

**Source:** Trends in agile innovation management - Scientific Figure on ResearchGate. Available from:  
[https://www.researchgate.net/figure/Characteristics-of-radical-and-incremental-innovation-Source-Prasadi-Lokuge-2015\\_tbl1\\_331424039](https://www.researchgate.net/figure/Characteristics-of-radical-and-incremental-innovation-Source-Prasadi-Lokuge-2015_tbl1_331424039)  
[accessed 4 Mar, 2020] Table 1 : Characteristics of radical and incremental innovation, (Prasadi Lokuge, 2015)

## Discussion points:

- Brief comparison of the 2 approaches
- Situations when the 2 are applicable/desirable
- Interaction with users in the 2 cases
- Process versus product orientation

# **Product Innovation Incremental or Radical ?**

- Product (R) rather than process (I) oriented
- High degree of uncertainty (R)
- (R) may lead to dominant design replacement
- Is (R) a gamble?
- For how long a new innovation may maintain sustainable advantage?

# Breakthrough & Radical Innovation

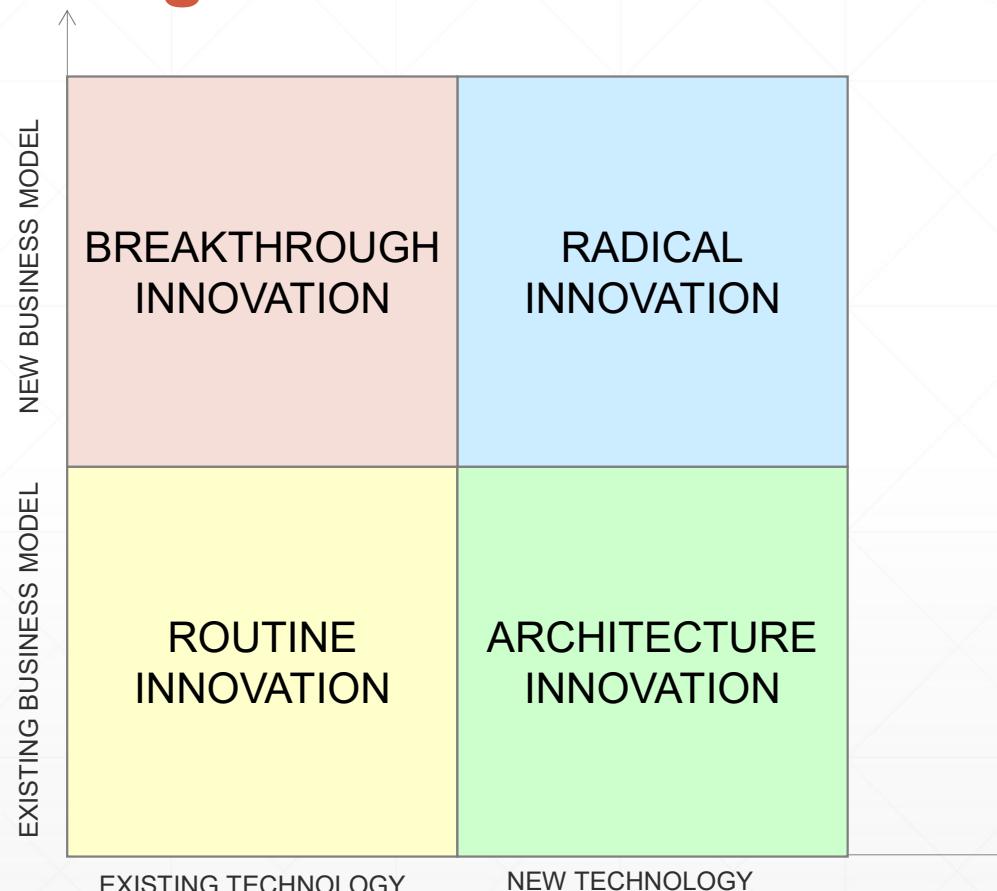
## The Role: The Entrepreneur

- “An **entrepreneur** is an individual who creates and/or invests in one or more businesses, bearing most of the risks and enjoying most of the rewards.
- Entrepreneurship employs what Schumpeter called "the gale of creative destruction" to replace in whole or in part inferior innovations across markets and industries, simultaneously creating new products, including new business models. In this way, creative destruction is largely responsible for the dynamism of industries and long-run economic growth.”

(source: Wikipedia)

# Innovation | An Overview

## Putting it all together



# Innovation Continuous and/or Discontinuous

- As we have seen, incremental innovation is a continuous process, in contrast to radical innovation, which is discontinuous
- Exceptionally innovative firms have understood the need to operate on both fronts and have incorporated this ability in their structure and processes
- Example: Apple
  - Computers: iBook, IMac, IPad, ...
  - Music: iPod, iTunes, ...
  - Mobile telephony: iPhone

# About disruption

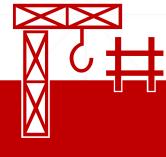
## Types of innovation

**Sustaining:** An innovation that does not significantly affect existing markets. It may be either:

- **Evolutionary** - An innovation that improves a product in an existing market in ways that customers are expecting (e.g., tactile onscreen keyboard in mobile phones.)
- **Revolutionary** (discontinuous, radical) - An innovation that is unexpected, but nevertheless does not affect existing markets (e.g., Steve Jobs's NeXT computer)

**Disruptive** - An innovation that creates a new market by providing a different set of values, which ultimately (and unexpectedly) overtakes an existing market (e.g., the smartphone, which displaced traditional mobile feature phones)

Source: Clayton M. Christensen (1997). *The innovator's dilemma: when new technologies cause great firms to fail.* Boston, Massachusetts, Harvard Business School Press.



# Class Assignment

Based on today's discussion in class, please elaborate on one of the innovations listed below, by answering the following questions:

- A. What type of an innovation is it? (Incremental, Architecture, Radical, Breakthrough)
- B. Why was it considered to be an “innovation”?
- C. What did it take for it to become successful (massively adopted)?

Innovations to choose from:

1. The Personal Computer, as we know it today
2. Electronic mail (e-mail)
3. The smartphone
4. Internet Telephony (e.g. Skype)
5. Internet search engine
6. Intelligent Virtual Assistants

# Innovation Class Discussion



Imagine you're an Innovation Manager at a company and that you are constantly improving the company's products (incremental innovation), and doing a good job at it

One day, your boss comes to you and says: « **We need to be even more innovative than we are today!** »

What would you do?

- Acquire a competitor?
- Partner with other companies?
- Change something in your process/structure?

# Innovation as a corporate process

## Introducing change management

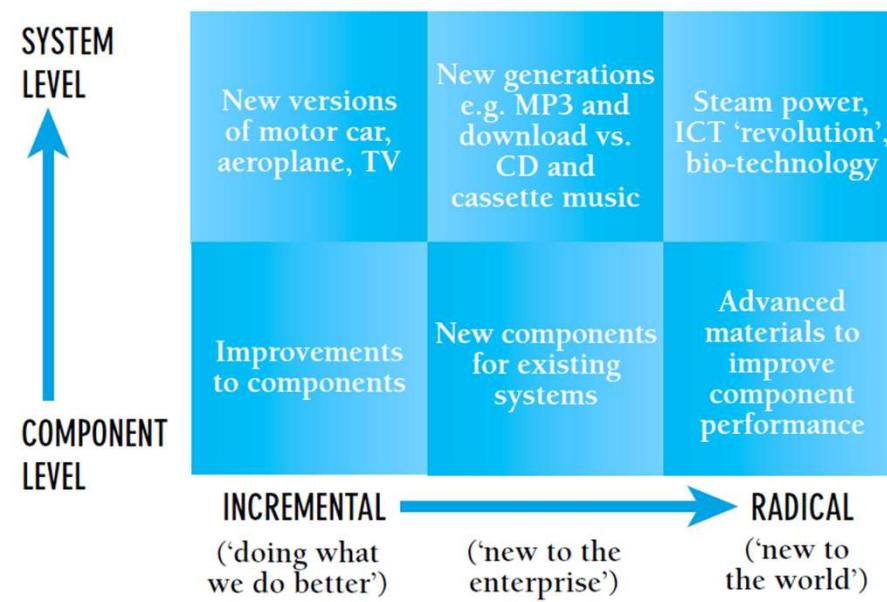


FIGURE 1.1 Dimensions of innovation

Source: Joe Tidd, John Bessant, Keith Pavitt. *Managing Innovation*. John Wiley & Sons. Third edition, 2005

# Change Management

In order to understand how a business organization needs to change in order to implement effective innovation management processes, we need to look at innovation across its multiple dimensions, i.e. the ‘4Ps’ of innovation):

- **‘product innovation’** – changes in the things (products/services) which an organization offers;
- **‘process innovation’** – changes in the ways in which they are created and delivered;
- **‘position innovation’** – changes in the context in which the products/services are introduced;
- **‘paradigm innovation’** – changes in the underlying mental models which frame what the organization does

Source: Joe Tidd, John Bessant, Keith Pavitt. *Managing Innovation*. John Wiley & Sons. Third edition, 2005

# Change Management Position and Paradigm Innovation

## POSITION INNOVATION

- Mass production (example, Henry Ford's automobile assembly line), i.e. making products affordable to the masses as opposed of handmade products for a selected few

## PARADIGM INNOVATION

- The shift to low-cost airlines,
- The provision of online insurance and other financial services,
- The repositioning of drinks like coffee and fruit juice as premium 'designer' products (ex: Starbucks)

# Change Management

## Coordination types (according to H Mintzberg)

1. **Simple coordination** (hierarchy)
  - SME, small commerce
2. **Mechanistic bureaucracy** – procedure-driven
  - Large government administrations, retail banks
3. **Divisional structure** – budget-driven, multiple service lines
  - Multinational companies
4. **Professional bureaucracy** – qualification-drive, highly skilled professionals
  - Hospitals, universities
5. **Adhocracy** – collaboration-driven, one-off endeavors
  - A movie production, NASA projects, Solar Impulse, etc...

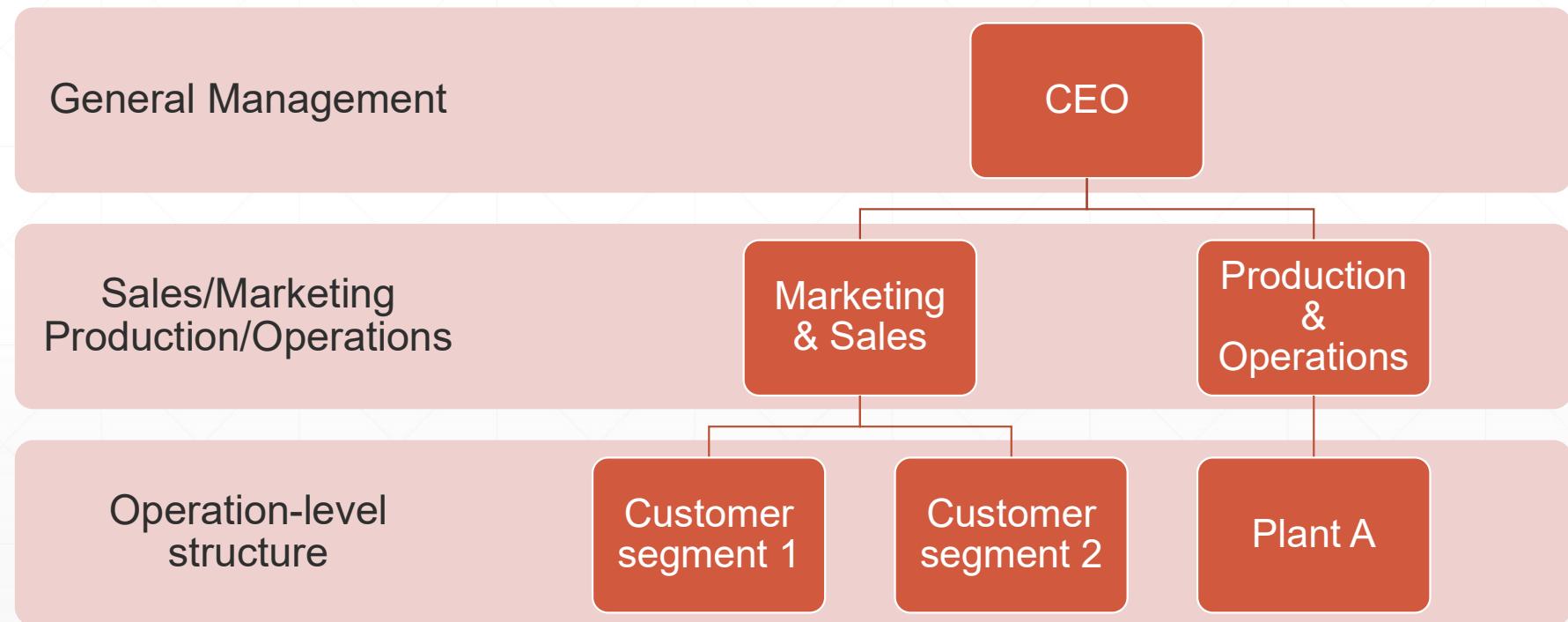
# Change Management Enterprise Organization

- In order to carry out its mission, and to achieve its objectives, a business needs to implement some form of organization, allowing its people to work together towards the common goals
- The types of organizations a business could implement vary widely, depending on the nature of the business, its country of origin, local culture and management practices
- Several organizational models, however, are being commonly used across businesses. Among these, we shall discuss the following 3 models:
  - Hierarchical organization
  - Matrix Organization
  - Organization by projects

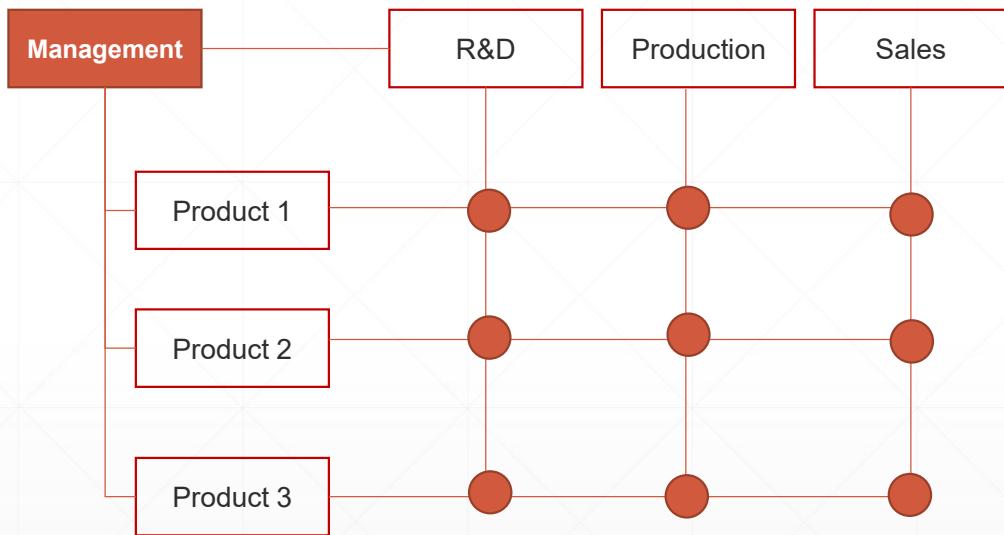
# Hierarchical organization

- Main characteristics:
  - Vertical division of labor, i.e. separation between design & planning work, and execution
  - Span of control
  - Decomposition of work
- The 5 elements of business administration (according to Henri Fayol):
  - Plan (« anticipate the future »)
  - Organize
  - Command
  - Coordinate
  - Control

# Typical hierarchical structure

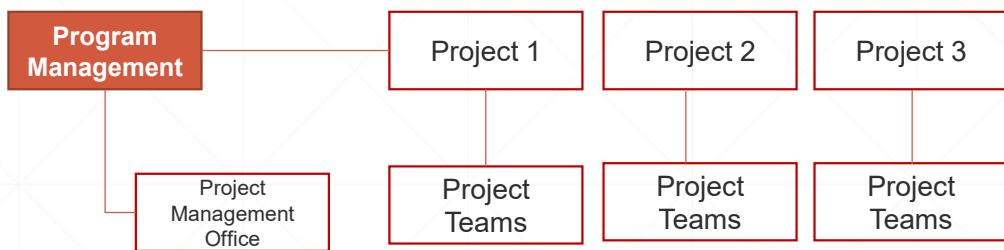


# Matrix Organization



- In between classical (hierarchical or functional) organization and pure project management
- Allows greater flexibility for company-wide initiatives related to innovation
- Due to the double reporting (dual management), the decision processes may prove to be more complex and management may become more difficult

# Organization by Projects



When several projects are to be run in parallel, a program structure is set-up in order to manage a portfolio of projects

The PMO (Project Management Office) is the central team that oversees the various projects

Phases of a project (example: IT project.

**Note:** Each phase could be considered to be a project in its own right):

- Feasibility
- Scoping
- Design
- Development
- Integration
- Deployment

# « Real life » organization

## HIERARCHICAL VIEW

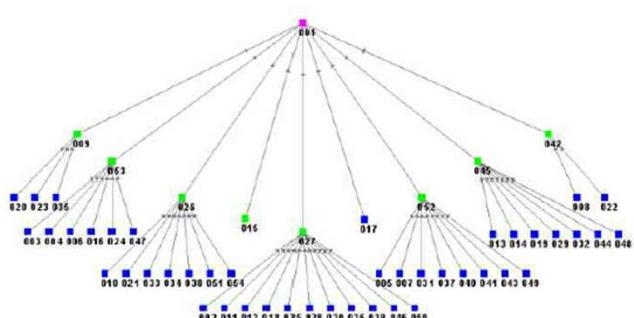


Figure 1. Hierarchy of the Traditional IT Department.

## « REAL LIFE » VIEW

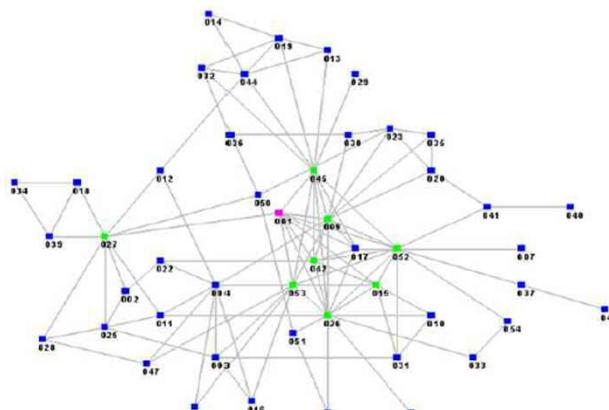


Figure 2. How Work Actually Gets Done in the IT Department.

Source: Valdis Krebs, orgnet.com. *Managing the 21st Century Organization*. 2007 • Volume XI, Number 4 • IHRIM Journal

# Change Management

	Mindful towards preserving-ness	Mindful towards novelty
Open, client-oriented	Process management (4)	Management by projects (3)
Closed, product-oriented	Structure management (1) <b>Starting point</b>	Project management (2)

Luc de Brabandère (*Le management des idées*. Dunod, 1998) proposes the following evolution path:

- (1) – self centered organization, routine oriented where management preserves structures
- (2) – implement projects in order to innovate, in selected, well defined areas
- (3) – the gradual realization of client (external) needs may lead to larger scale projects, to the detriment of existing structures
- (4) – to evolve, gradually, to a continuous client-centered organization, all while preserving the survival of the company

# Barriers to Change and Innovation

## Bureaucracy

Too many rules, too much control

## Leadership

Lack of vision and unwillingness to allocate resources

Lack of empowerment/control

Being engrossed with success (failure is inherent to learning)

## Incentive

Focus on short term (doing what we do today)

Sanction (or no rewards) of risk-taking

## Collaboration

Lack of collaborative culture

Lack of openness

## Christensen's "Innovator's dilemma"

- The tendency to favour sustaining technologies
- As opposed to disruptive technologies

## The competency trap

- An organisation becomes so expert it persists with current practices
- It can no longer change in response to the environment

## Knowledge may act as a barrier to learning (Starbuck 1983)

- When organisations assume they know everything they need to know
- Can be due to ignorance and/or arrogance

# Change via Projects (Programs)

- Implementing a “Project Mode” is the best way to limit obstacle to change
  - It builds up on those who want the change
  - It by-passes vertical and horizontal organizational boundaries
  - It allows for fast action
  - If it works, it allows far fast appropriation and commitment
- The Program (composed of multiple projects) team
  - A core team directly reporting to Top Management
  - A team for each sub-project with a leader and a mentor
  - The project structure works on specific impactful actions

# Change within the change

## Team Roles

My RACI Matrix

	R	A	C	I
Project phase 1	✓	✓		
Project phase 2	✓			
Project phase 3			✓	✓

R – Responsible

A – Accountable

C – Consulted

I - Informed

Description

- Roles may vary, depending on the project phase
- A team member may « embrace » different roles, along the way
- RACI is the well-known Project Management role breakdown matrix, the roles definition may be adapted to fit the purpose of the project or initiative at hand

# Team Roles

## What do people actually do?

### THINKERS, INTERACTIONERS

- **Coordinator** – enables processes
- **Collaborator** – enables team work
- **Pioneer** – explores possibilities
- **Inventor** – brings new ideas
- **Observer** – analyses feasibility

### DOERS, IMPLEMENTERS

- **Executer** - executes upon the plan
- **Implementer** – overcomes obstacles
- **Finisher** – improves constantly
- **Specialist (expert)** – brings in expertise

## Team Roles (continued)

Role within the team	Contribution	Personality	Allowed to...
Orientation: Thinking Explorer	Brings new ideas	Constantly explores new domains	Get distracted easily
Orientation: People Coordinator			
Orientation: Action Maker, Doer	Improves decision making within group	Open, confident	Lack deep domain expertise
	Overcomes obstacles	Reliable, trustworthy	Be inflexible about deadlines

# Change Management - Inter-disciplinarity

## From I-shaped, to T-shaped, to $\pi$ -shaped people

### I-shaped people

- Characterized by a single specialty or area of expertise. They demonstrate limited general knowledge of different disciplines and prefer to work in one single job type

### T-shaped people

- Have vertical (specialized) skills but also horizontal (general) knowledge in other disciplines (according to IDEO's former Chief Executive Tim Brown).

### $\pi$ -shaped people

- Multifaceted (a term coined by Ashley Friedlein, CEO and co-founder of Econsultancy). They have broad mastery of general knowledge but also deep functional or domain expertise in two or more knowledge areas. Particularly adapted to organizations that have limited people resources.

THE ULTIMATE CHANGE?

*“In an increasingly data-driven economy, the demand for “soft” social skills, like teamwork and communication, increase with greater demand for “hard” technical skills and tools”*

Börner & al. 12630–12637 | PNAS | December 11, 2018 | vol. 115 | no. 50

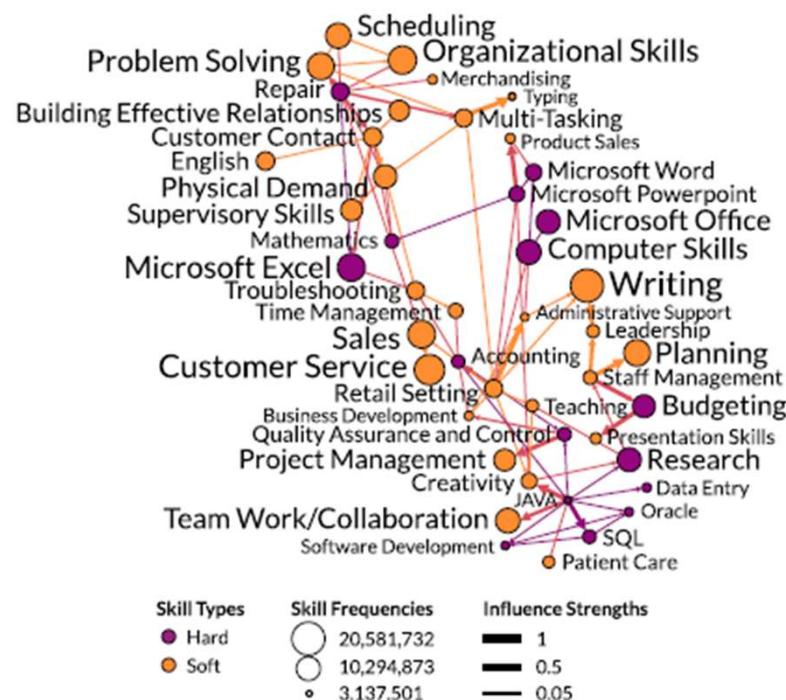


Chart source: Börner & al. 12630–12637 | PNAS | December 11, 2018 | vol. 115 | no. 50

# Enterprise Essentials - Innovation and Change Class Summary

## 21<sup>st</sup> Century Skills

Learning and Innovation "The 4 C's"	Digital Literacy	Career and Life
Critical thinking & problem solving	Information literacy	Flexibility & adaptability
Creativity and innovation	Media Literacy	Initiative & self-direction
Communication	ICT Literacy	Social & cross-cultural interaction
Collaboration		Productivity & Accountability
		Leadership & responsibility

Table 1 - P21 Skills

**Source:** By Creator:Charles Fadel - Own work, CC BY 3.0, <https://commons.wikimedia.org/w/index.php?curid=13303557>

# Innovation, Change Management and... Lean Methodologies

## Innovation need

- Understand the customer problem/need
- Empathize
- Define the outline of the solution
- Ideate

## LEAN METHODS

- Learn
- Build
- Measure
- Iterate
- Pivot?
- Persevere?

# Innovation, Change Management and... Agile Development

## Innovation need

- Continuous delivery of software
- Frequent delivery of increments
- Continuous conversation between business and development teams
- Self organization

## AGILE METHODS

- Product Feature(s) Backlog
- Sprint Planning
- Sprint Execution
- Shippable increments
- Sprint Review

THE AGILE MANIFESTO: <https://agilemanifesto.org/principles.html>

# Innovation, Change Management and... DevOps

## Innovation need

- Reduce gaps between design and development
- Take operational constraints into account in the early stages of the process
- Anticipate technical and production impacts on customer needs

## DEVOPS

- Optimize Operations with the final user in mind
- Holistic view across people, process and technology
- Building interdisciplinary mindset
- UX Design (also part of Lean)

IN A NUTSHELL: <https://frenchfutureacademy.com/design-thinking-agile/>

# Innovation, Change Management and... Business Model Innovation

## Innovation need

- Holistic view of the customer problem/need across its multiple dimensions
- 360° view of the the outline of the solution
- Facilitate the emergence of the unique value proposition

## Business Models

- Building Value Propositions
- (Re)Thinking all company processes with the client in mind
- Alternate between:
  - Business Model Canvas
  - Lean Canvas

MORE INSIGHTS: <https://www.strategyzer.com/blog/posts/2016/1/22/how-design-thinking-will-reshape-business-model-innovation>

# Thank You!

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Valeriu Petruelian