



INNOVATION & ENTREPRENEURSHIP

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ENSIA 2023-2024



OBJECTIVES

- Understanding the essence of innovation and the management of innovation;
- Understanding the concepts, methods, processes and tools with their use in your innovation process;
- Understanding how to develop and manage creativity;
- knowledge of the legal foundations of intellectual property;
- Understanding the essence of entrepreneurship and the skills of an entrepreneur;
- Knowledge of the legal foundations of entrepreneurship.

- **Prerequisite:** Introduction to Business
- Evaluation Method: Coursework (40 %) + Final Exam (60%) with a presentation of an entrepreneurial project.



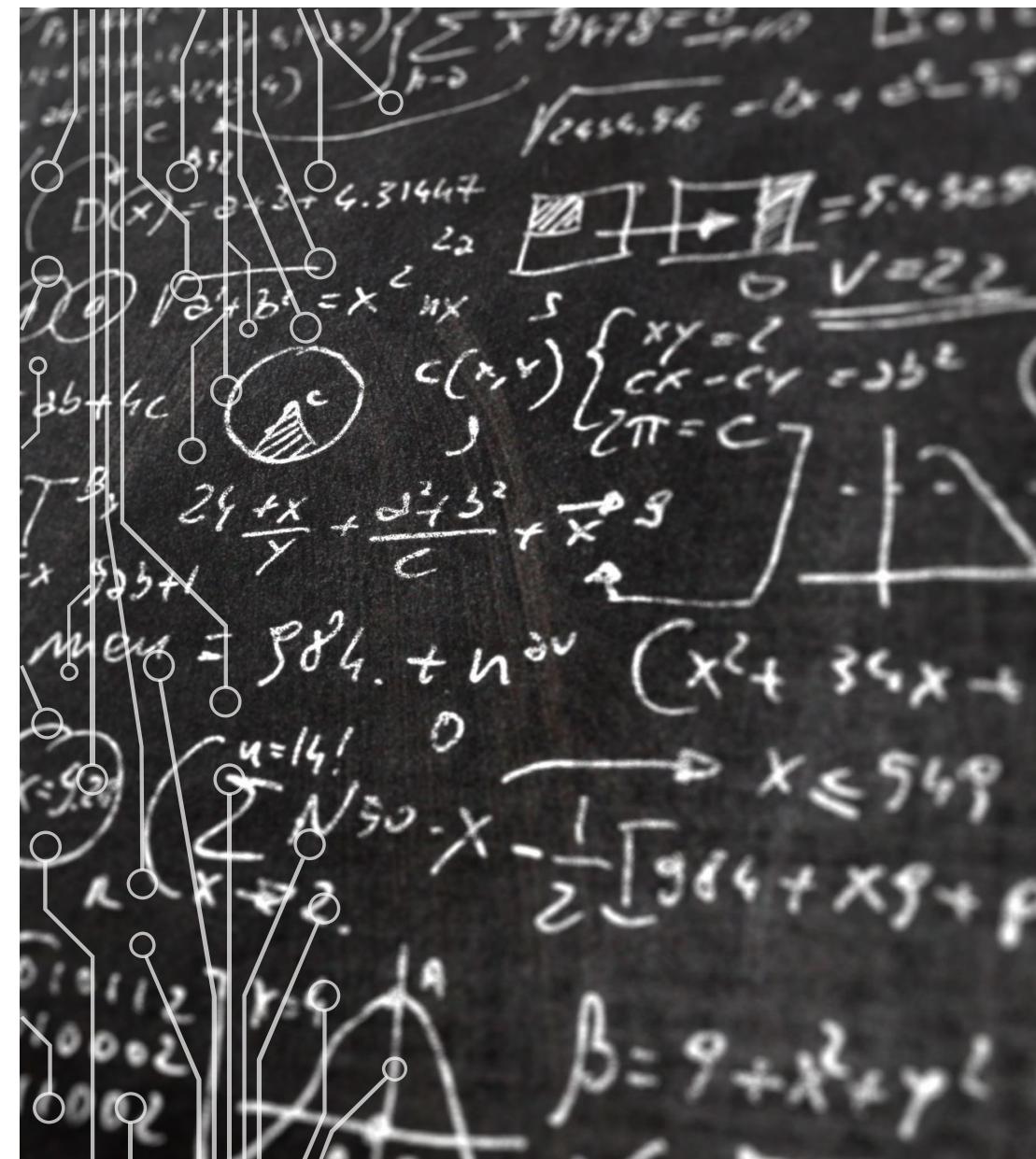


PLAN

- Types of innovation and innovation models
- New products and services
- R&D and knowledge management
- Developing creativity & Business Idea
- Intellectual property
- Innovation and entrepreneurship
- Entrepreneurship in the 21st Century
- Social and civic Entrepreneurship

UNIT 1

TYPES OF INNOVATION AND INNOVATION MODELS



DEFINITION

- Innovation is considered as both the process and outcome of creating or inventing something new and valuable that produces broader effects in the economy and technological advances (Edwards-Schachter, 2018).
- Freeman (1974, p. 22) defined innovation related to invention as intrinsic to technological change: “an invention is an idea, a sketch, or a model for a new or improved device, product, process, or system.”
- Freeman (1974, p. 22) maintains, “an innovation in the economic sense is accomplished only with the first commercial transaction.”
- Porter (1990) defined innovation as “a new way of doing things (termed invention by some authors) that is commercialized” (p. 780).
- An innovation “is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations” (Oslo Manual, 2005, p. 46)

TYPOLOGIE OF INNOVATION

Schumpeter (1935): 5 types of innovation

- New product or service
- New market
- New method of organization
- New source of materials
- New process of production

New, still unknown in the sphere of consumption, benefit, or new new quality known good.

Opening new market opportunities for well-known products

Reorganization of production, leading to the erosion of some established therein monopoly

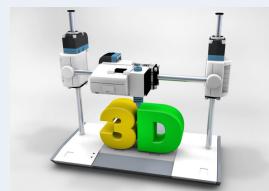
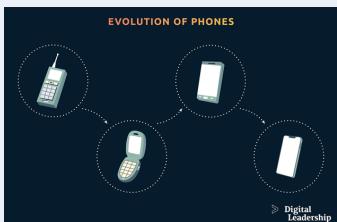
The discovery of new sources of raw materials or semi-finished products

A new, more efficient method of production that is not associated with scientific discovery

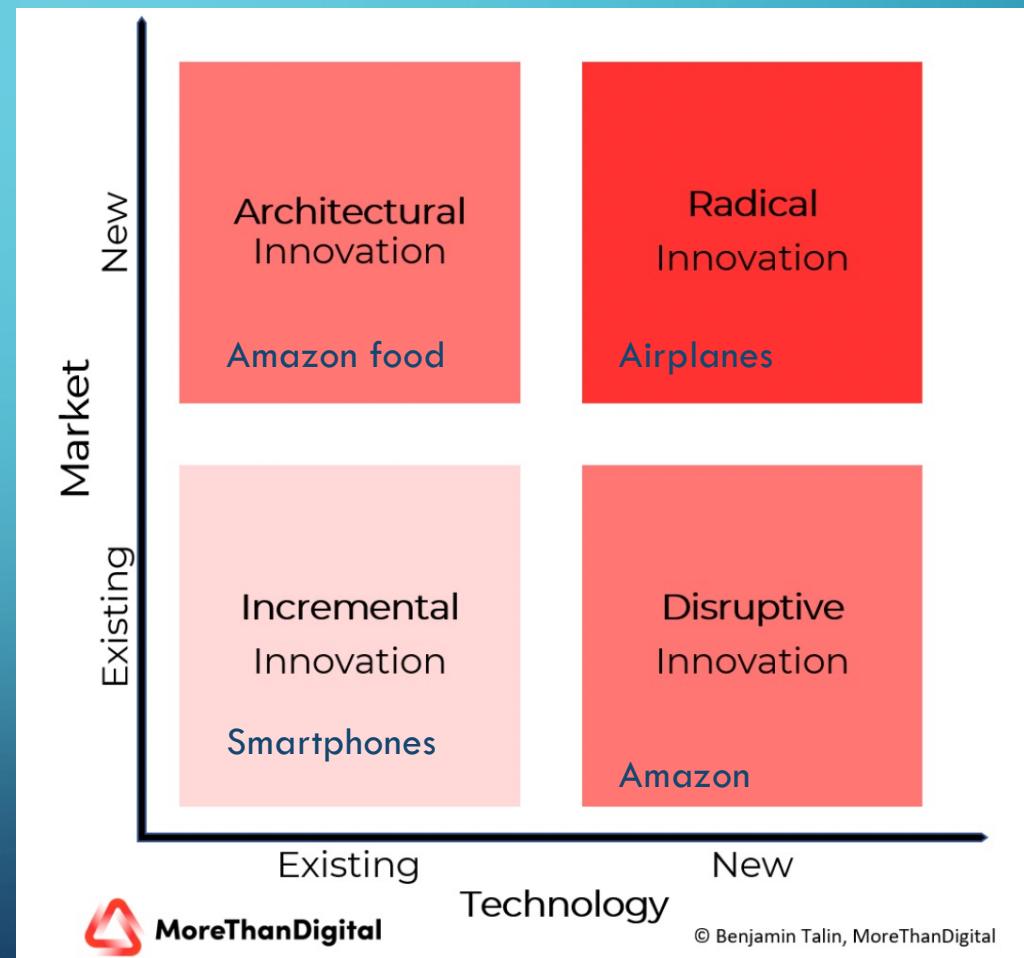
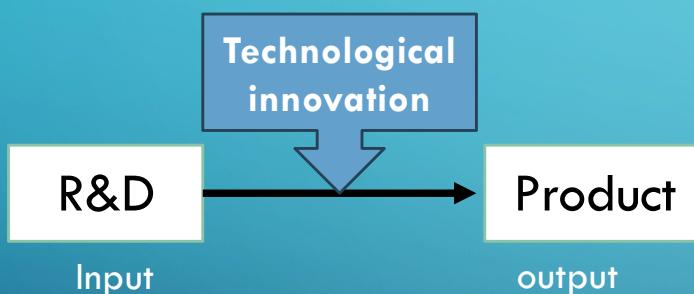
Source: Schumpeter, 1982

TYPOLOGIE OF INNOVATION

Typologie of innovation

Field	Nature
<p>Product innovation Service innovation Organizational innovation Marketing innovation Process innovation Business model innovation Technology innovation Open innovation Social innovation Sustainable innovation</p>   	<p>Radical innovation</p>   <p>Incremental innovation</p>  

TYPOLOGIE OF INNOVATION



INNOVATION'S MODEL

1st Generation

TECHNOLOGY PUSH MODEL

R&D

Manufacturing

Marketing

MARKET PULL MODEL

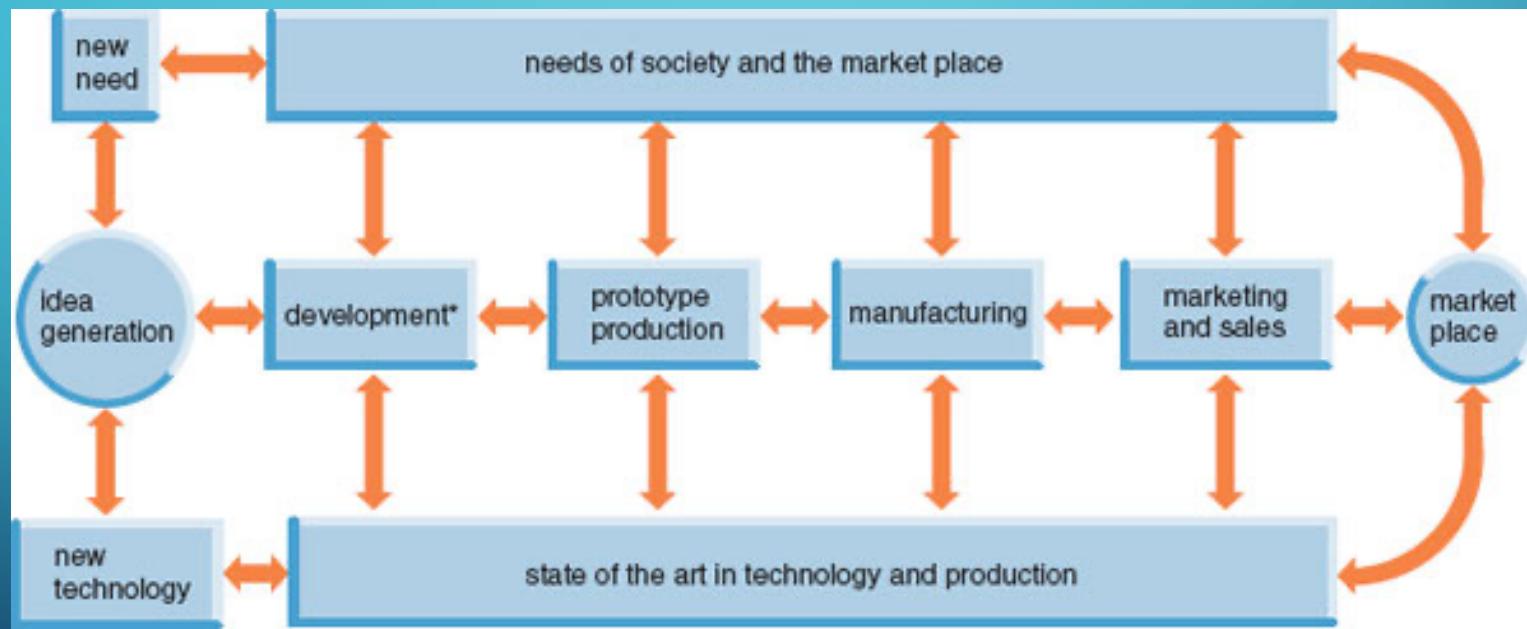
Marketing

Manufacturing

R&D

INNOVATION'S MODEL

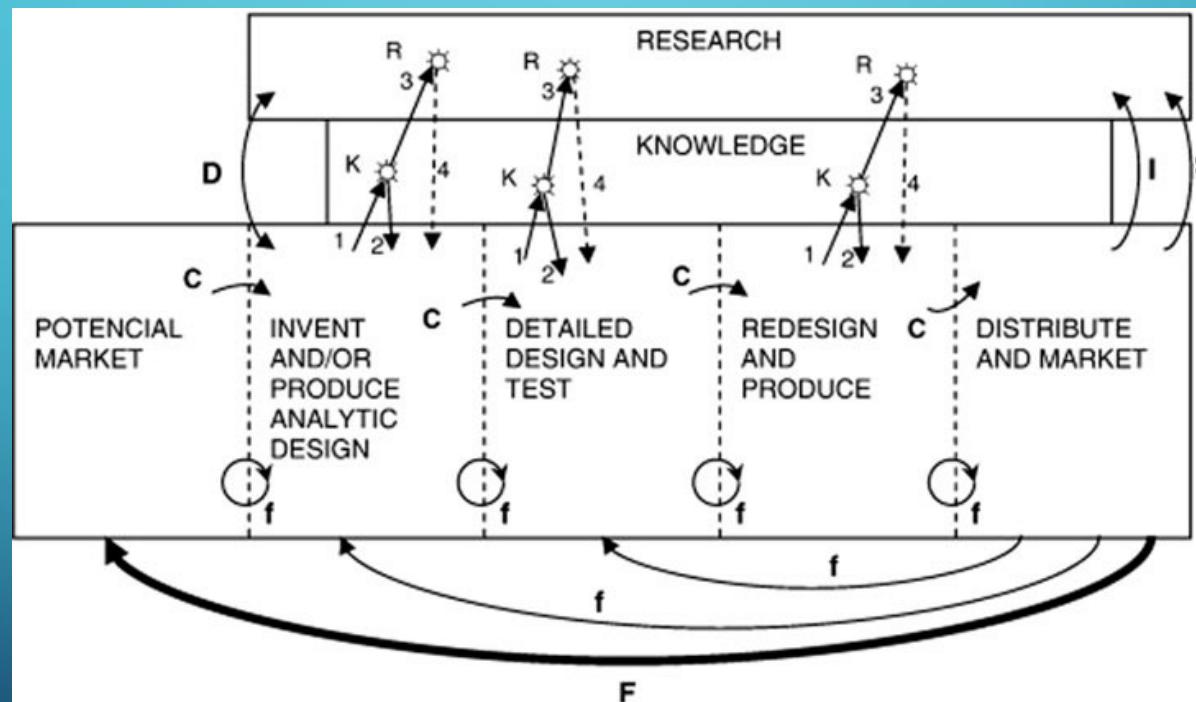
2nd Generation



Rothwell's coupling model (1992)

INNOVATION'S MODEL

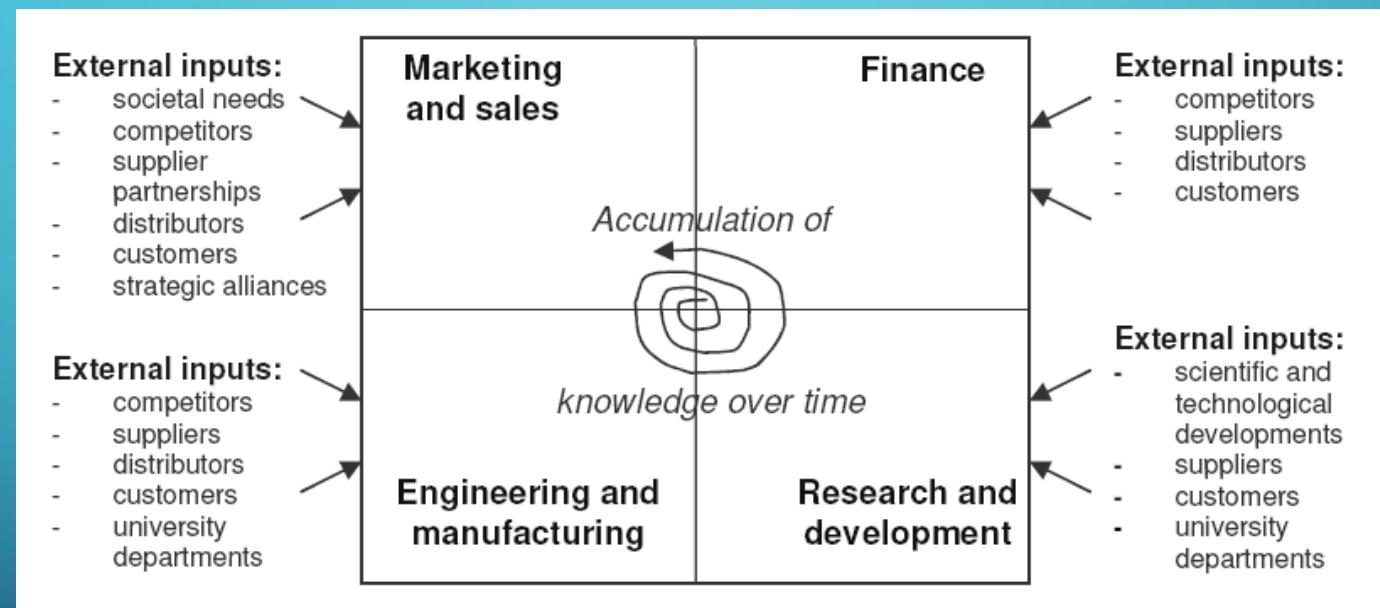
3rd Generation



Rosenberg's integrated model (1985)

INNOVATION'S MODEL

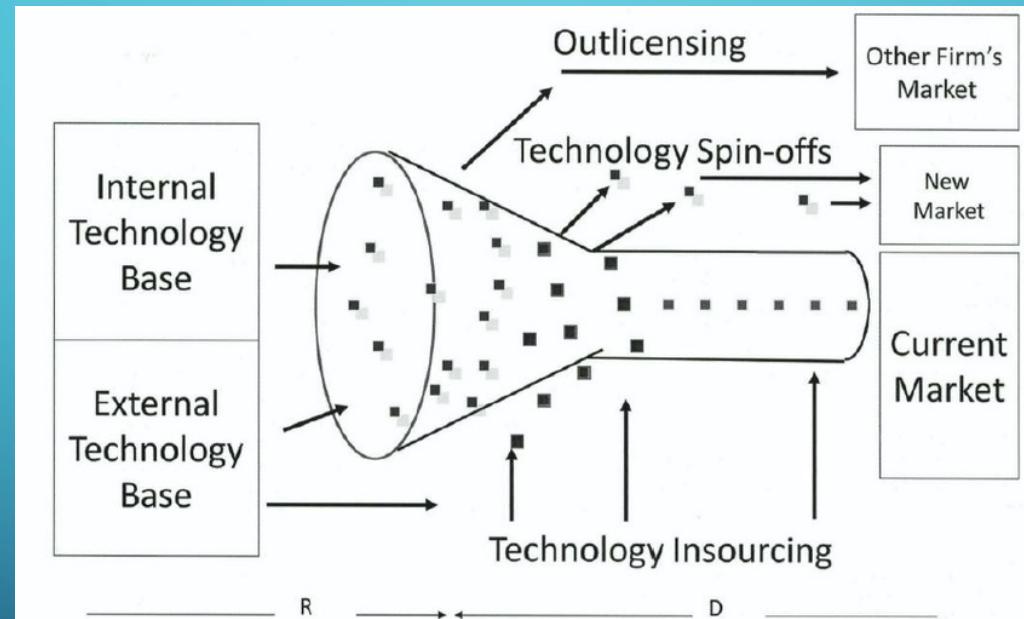
4th Generation



A network model innovation (Trott, 2005)

INNOVATION'S MODEL

5th Generation



The open innovation (Chesbrough, 2012)



UNIT 2

DEVELOPING NEW PRODUCTS OR SERVICES



$P_1 = 6000$
 $(42 + 53) \times 11 = 557 \times 81032$
 $abc = 5634403.4$

$D(x) = 2 + 3 + 4.31447$

$\sqrt{a^2 + b^2} = x^2$

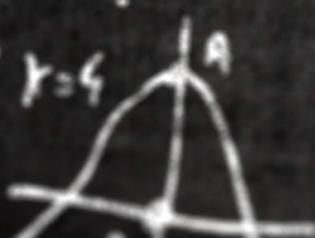
$c(x, y) \left\{ \begin{array}{l} xy = c \\ cx - cy = 352 \\ \pi = c \end{array} \right.$

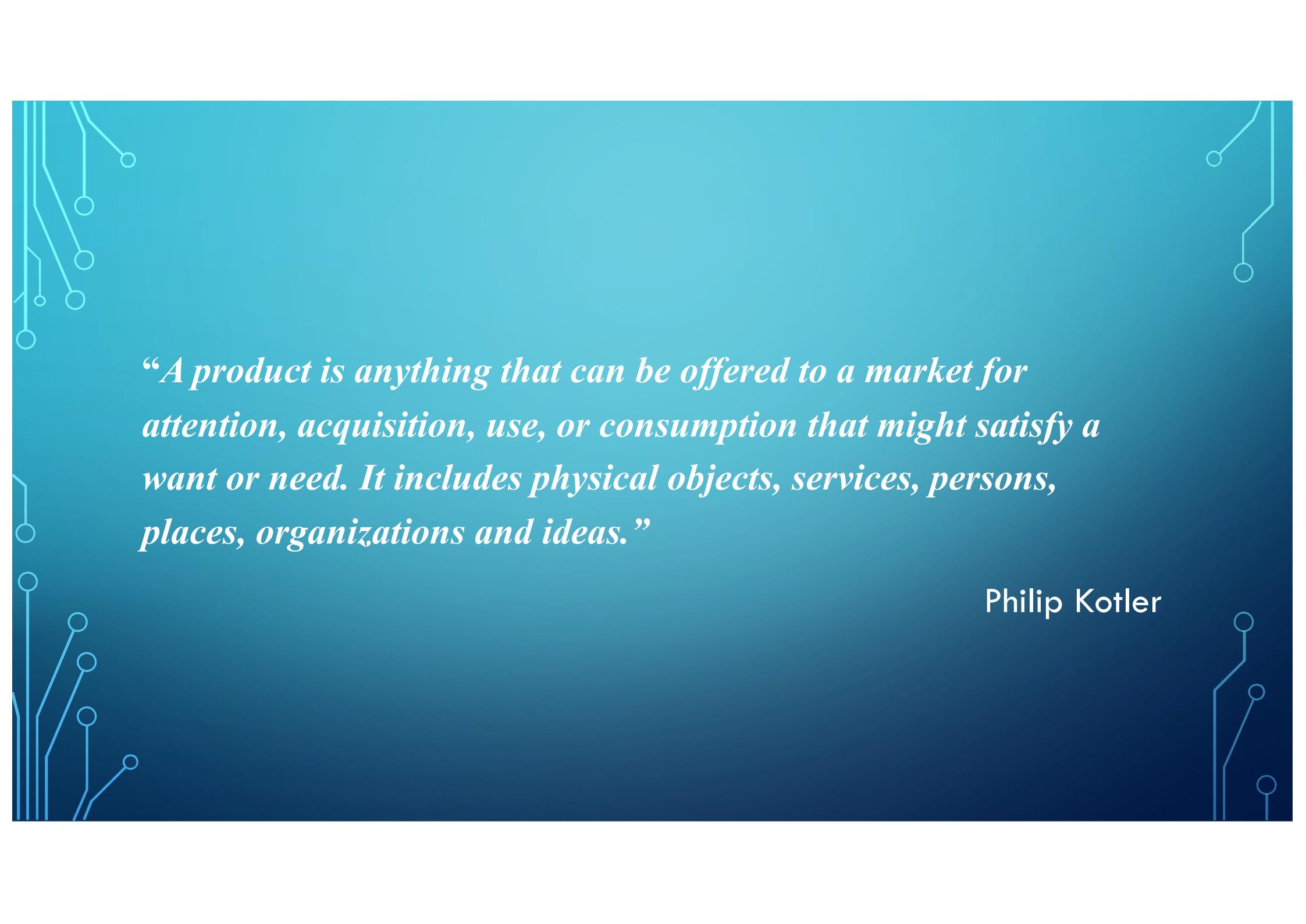
$T^3, 24 \frac{dx}{y} + \frac{d^2x^2}{c} + \vec{x} \cdot \vec{s}$

$men = 384. + n^{av} (x^2 + 34x +$

$\sum_{x=2}^{u=14} N_{30} \cdot x - \frac{1}{2} [964 + xg + p]$

$\beta = 9 + x^2 + y^2$

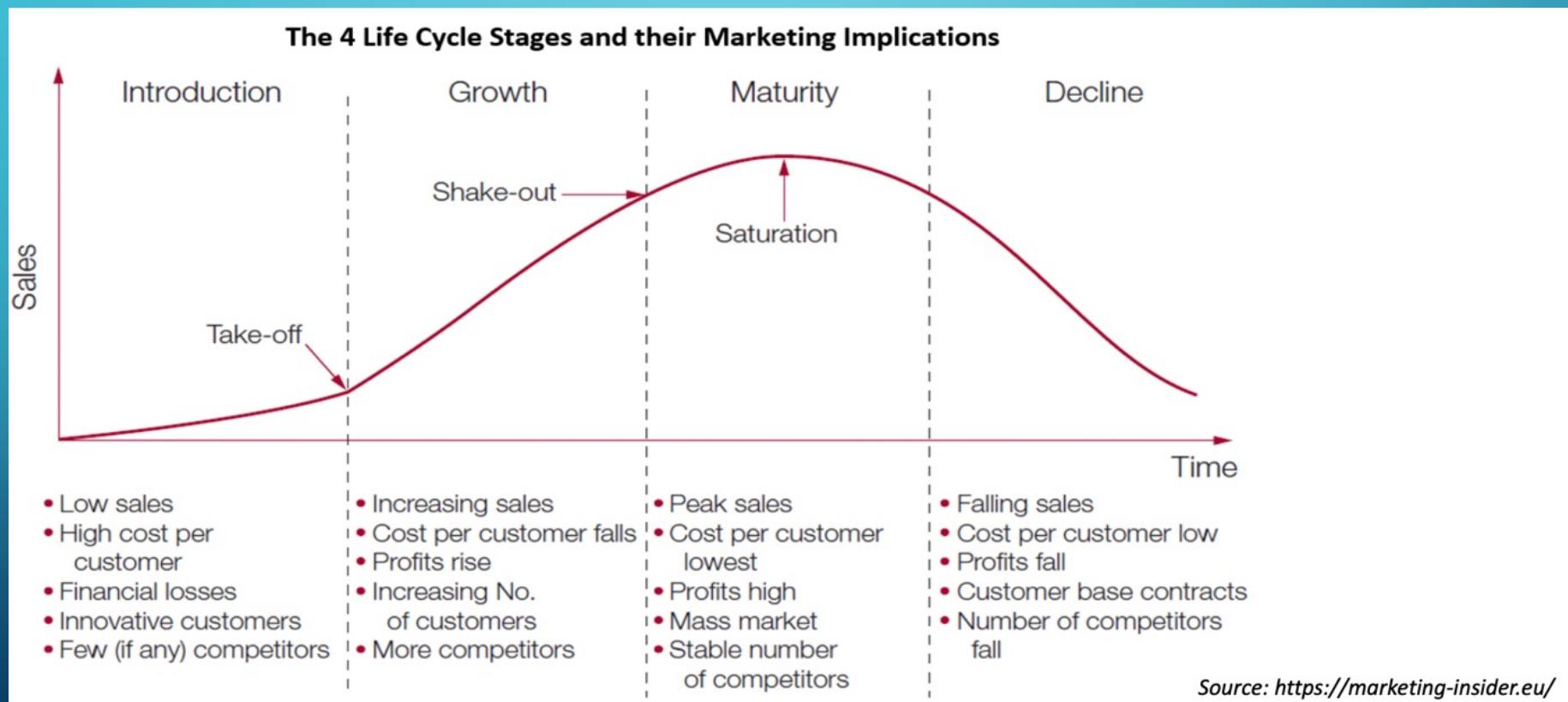


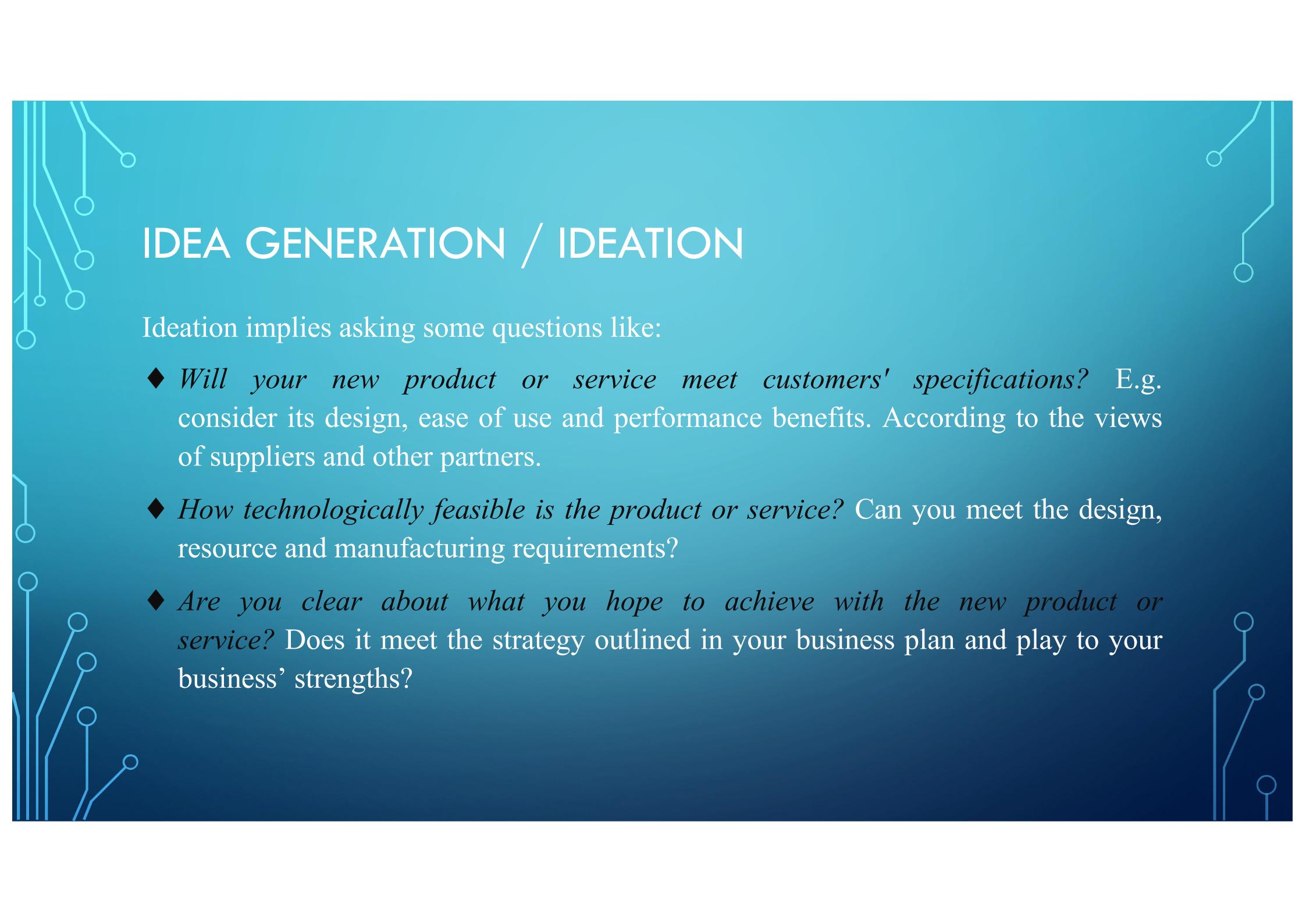


“A product is anything that can be offered to a market for attention, acquisition, use, or consumption that might satisfy a want or need. It includes physical objects, services, persons, places, organizations and ideas.”

Philip Kotler

THE PRODUCT LIFE CYCLE





IDEA GENERATION / IDEATION

Ideation implies asking some questions like:

- ◆ *Will your new product or service meet customers' specifications?* E.g. consider its design, ease of use and performance benefits. According to the views of suppliers and other partners.
- ◆ *How technologically feasible is the product or service?* Can you meet the design, resource and manufacturing requirements?
- ◆ *Are you clear about what you hope to achieve with the new product or service?* Does it meet the strategy outlined in your business plan and play to your business' strengths?



MARKET RESEARCH

Primary data

- Surveys, interviews, focus group, and observation.

Secondary data

- Market reports, government publications, academic research, and online databases.

CONCEPT CHECK/DEVELOPMENT

Refine the best ideas into concrete product concepts

- ◆ ***Define the Objective:*** clearly articulate the purpose and goals of the concept development process. Understand what problem the concept aims to solve or what need it fulfills.
- ◆ ***Gather Information and Research:*** conduct market research to understand customer needs, preferences, and pain points. Analyze industry trends and study existing solutions in the market.
- ◆ ***Generate Ideas:*** brainstorm and generate a range of ideas that address the identified problem or need. Encourage creativity and consider input from various stakeholders.

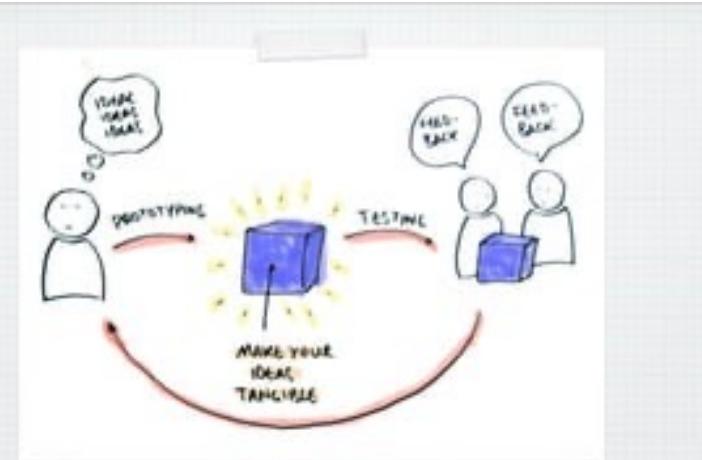
BUSINESS ANALYSIS

Feasibility check and risk analysis

- ◆ **Technical Feasibility**
- ◆ **Economic Feasibility**
- ◆ **Operational Feasibility**
- ◆ **Legal and Regulatory Feasibility**
- ◆ **Market Feasibility**
- ◆ **Resource Feasibility**
- ◆ **Environmental and Social Impact**

PROTOTYPING

- It involves creating a preliminary version of a product or system to test and validate its functionality, design, and user experience.
- A tangible representation of the concept before testing.
- It's a valuable tool for reducing risks, ensuring user satisfaction, and ultimately delivering a successful final product.



Prototyping

USERS EXPERIENCE AND MARKET TESTING



COMERCIALIZATION



New Product Launch

UNIT 3

R&D

KNOWLEDGE MANAGEMENT

$P_1 = 6000$
 $(4 \times 5332.11 + x^2 \times 8103.2)$
 $\therefore abc = 5434403.4$

$D(x) = 2 + 3 + 4.31447$

$\text{QO} \quad \sqrt{a^2 + b^2} = x^2 \quad \text{nx}$

$ab + bc$

$T^3, \quad 24 \frac{dx}{y} + \frac{d^2x^2}{c} + \frac{d^2x^2}{y} = 0$

$\text{men} = 384. + n^{3v} (x^2 + 34x - 4)$

$\text{R} \approx 9.20 \quad \left(\sum_{x=2}^{u=14} N_{30} \cdot x - \frac{1}{2} \sum [964 + xg + p] \right)$

$\begin{bmatrix} 10112 \\ 10002 \\ 11002 \end{bmatrix} \quad r=4$

$\beta = 9 + x^2 + y^2$

KNOWLEDGE

- Knowledge refers to the understanding, information, skills, and expertise that individuals or organizations possess.
- It is the result of acquiring, processing and assimilating information through learning, experience, observation, or study.

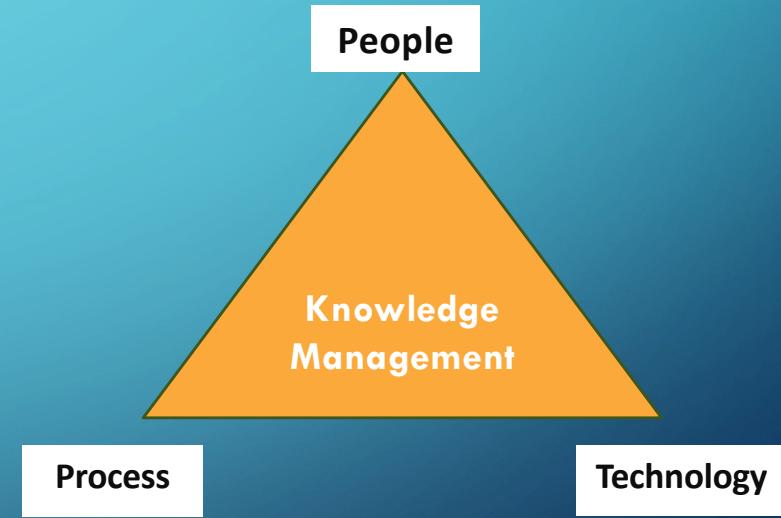
Explicit knowledge	Tacite knowledge
<ul style="list-style-type: none">- Formal and codified- Written or verbal form- Documented, stored and shared	<ul style="list-style-type: none">- Personal and difficult to articulate- Individual's experience, skills- Practice, observation

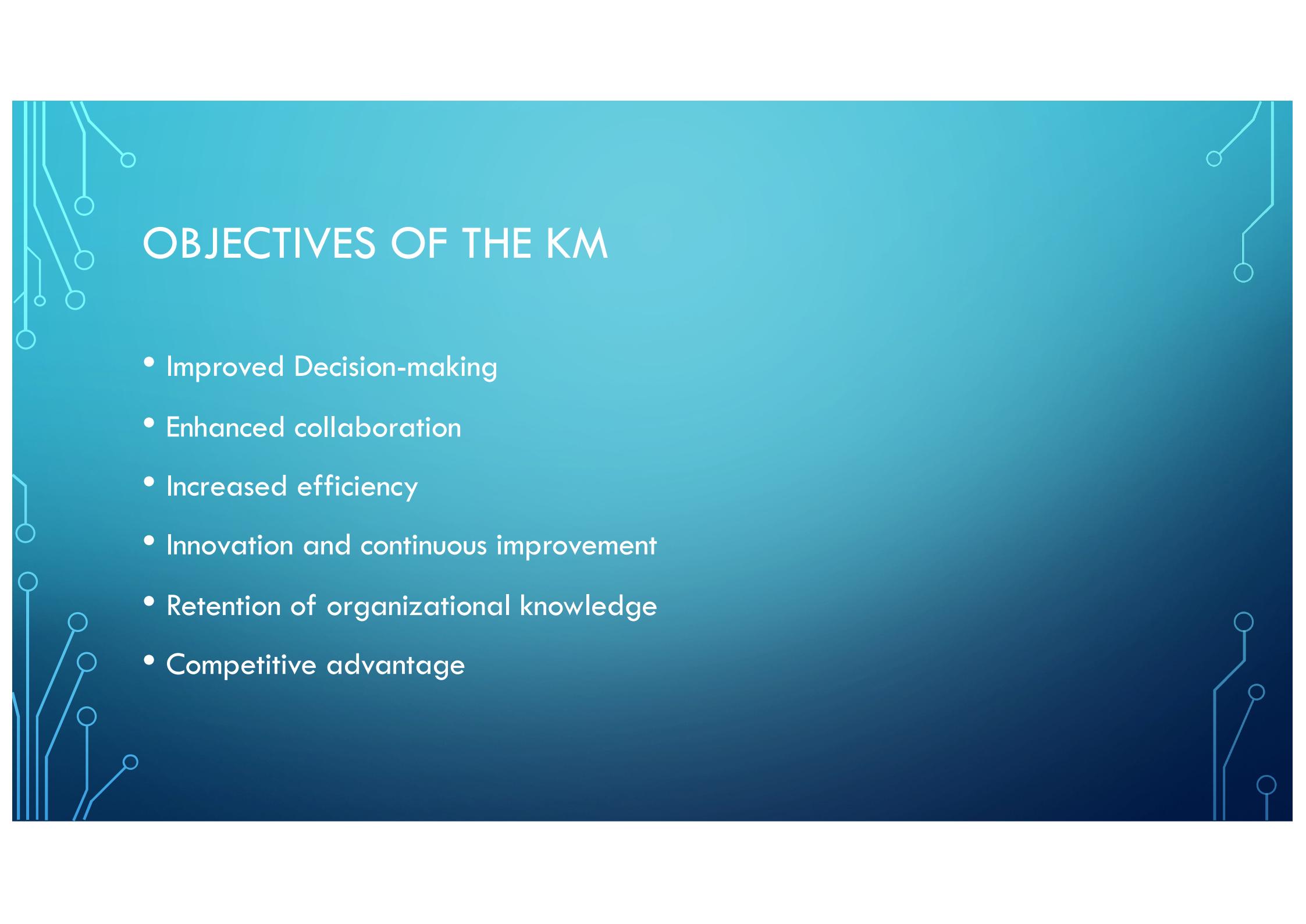
KNOWLEDGE MANAGEMENT SYSTEM



KNOWLEDGE MANAGEMENT SYSTEM

- People: the black box of knowledge
- Process: clear, simple & understood
- Technology: provides solutions

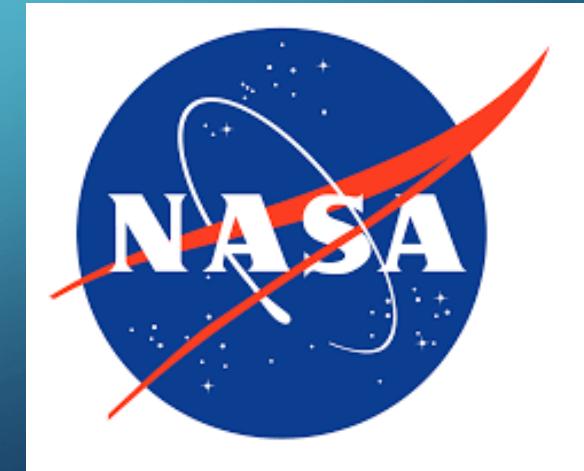


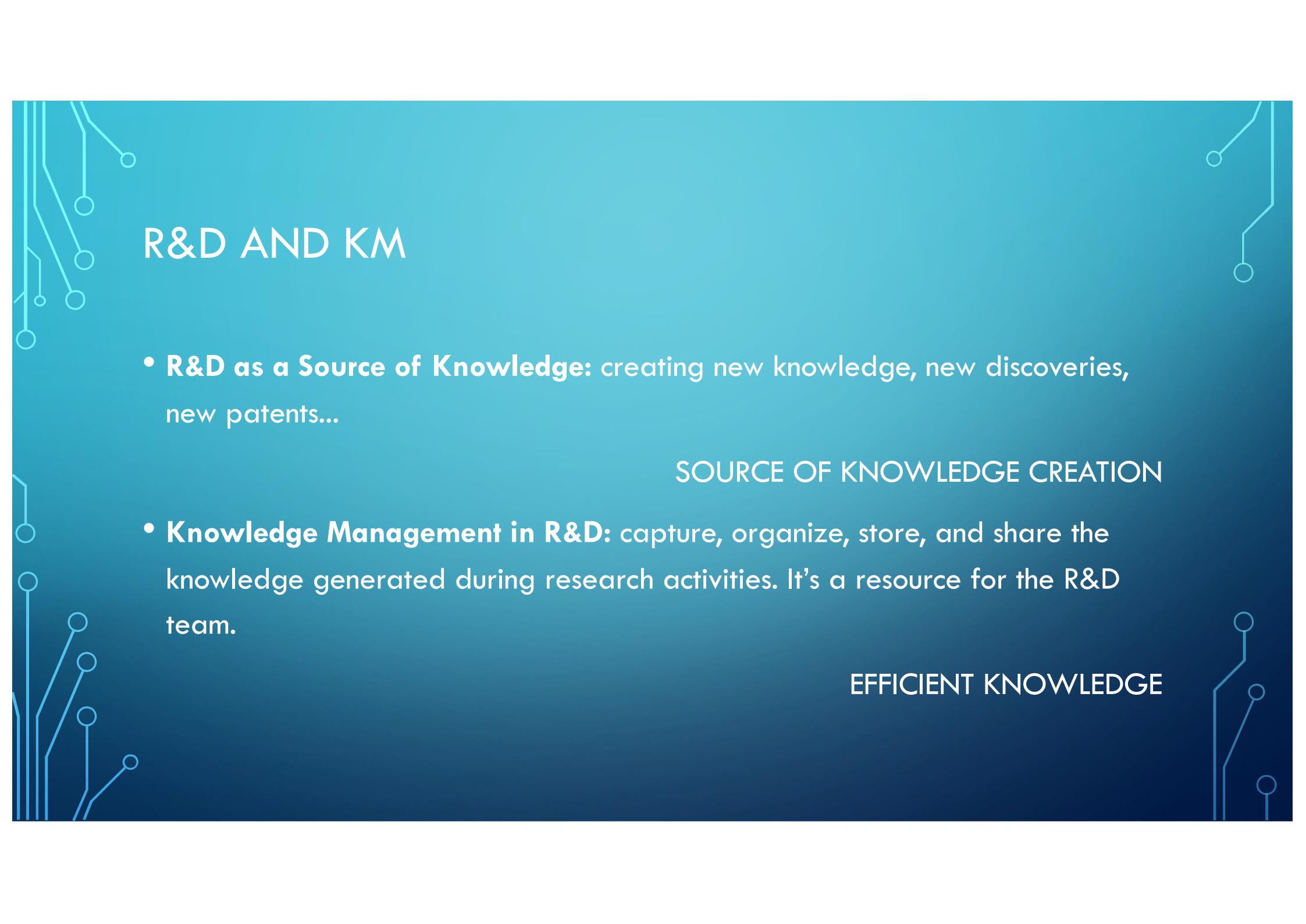


OBJECTIVES OF THE KM

- Improved Decision-making
- Enhanced collaboration
- Increased efficiency
- Innovation and continuous improvement
- Retention of organizational knowledge
- Competitive advantage

EXAMPLES





R&D AND KM

- **R&D as a Source of Knowledge:** creating new knowledge, new discoveries, new patents...

SOURCE OF KNOWLEDGE CREATION

- **Knowledge Management in R&D:** capture, organize, store, and share the knowledge generated during research activities. It's a resource for the R&D team.

EFFICIENT KNOWLEDGE