Innovation Management: Fundamentals and Recent Concepts

Learn the basics of innovation management and discover the latest concepts driving growth and differentiation.

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Agenda

- INTRODUCTION - Innovation Management

- THE PROCESS - Types of Innovation, Innovation Strategy and the Innovation Process

- THE PEOPLE - Impact of Organizational Culture and Leadership on Innovation

- THE TOOLS - Metrics and Tools and Challenges for Innovation Management

- THE CONTEXT - Recent Trends: AI, Open Innovation, and Twin Transformation

- THE CASE - Role of Technology in Innovation Management and Case Study

- ZOOMING OUT - Innovation Ecosystems

- CONCLUSION - Key Success Factors and Takeaways

Introduction to Innovation Management

① Definition 📘

1. **Process Oversight:** Innovation management is the systematic process of overseeing and guiding all innovation activities within an organization.

2. **Value Creation:** It's about creating and implementing new ideas that generate value, improving products, services, or processes.

② Importance 🚀

1. **Growth:** It leads to unique products and services. This opens new markets and ensures growth.

2. **Resilience:** It helps organizations adapt to changes. This makes them resilient in a changing business environment.

Types of Innovation

Product 🚀

1. **New Offerings:** Product innovation involves creating new products or improving existing ones.

2. **Value Addition:** It aims to add value to the customer and gain a competitive advantage.

Process 📈

1. **Efficiency Improvement:** Process innovation is about enhancing the methods of producing goods or services.

2. **Cost Reduction:** It aims to increase efficiency, reduce costs, and improve the quality of output.

Marketing 💬

1. **Novel Tactics:** Marketing innovation refers to the development of new marketing methods.

2. **Engagement Enhancement:** It involves unique ways of product promotion, pricing, distribution, and customer engagement.

Organizational 📑

1. **Structural Change:** Organizational innovation is about introducing new business practices, workplace organization, or external relations.

2. **Performance Boost:** It aims to improve performance, increase employee satisfaction, and foster a culture of innovation.

Innovation Strategy

Role 💼

1. **Guiding Roadmap:** It's a roadmap for new products, services, or processes. It helps focus and align innovation efforts.

2. **Competitive Advantage:** It helps organizations stay ahead. It anticipates market trends and meets customer needs.

Alignment 🎯

1. **Consistency:** Aligning innovation strategy with business strategy ensures that all innovative efforts support the overall business goals. It creates a consistent direction for the organization.

2. **Resource Optimization:** This alignment allows for optimal use of resources. It ensures that investments in innovation contribute directly to the strategic objectives of the business.

Example: Innovation and Business Strategy Alignment at Apple

- Apple diverges from the trend of integrating generative AI, unlike competitors Google and Microsoft.

- The company focuses on delivering high-end hardware, such as the Apple Vision Pro headset.

- The headset offers immersive experiences in apps, games, movies, and the workplace with over 20 cameras, sensors, and microphones.

- Apple's strategy allows it to run its own race in the AI field, rather than trying to catch up with others.

- This approach showcases Apple's innovative thinking and its ability to carve out its own niche in a highly competitive market.

WIRED

Apple Ghosts the Generative AI Revolution

Apple unveiled the Vision Pro headset and a number of AI-powered features yesterday, but largely ignored generative AI...
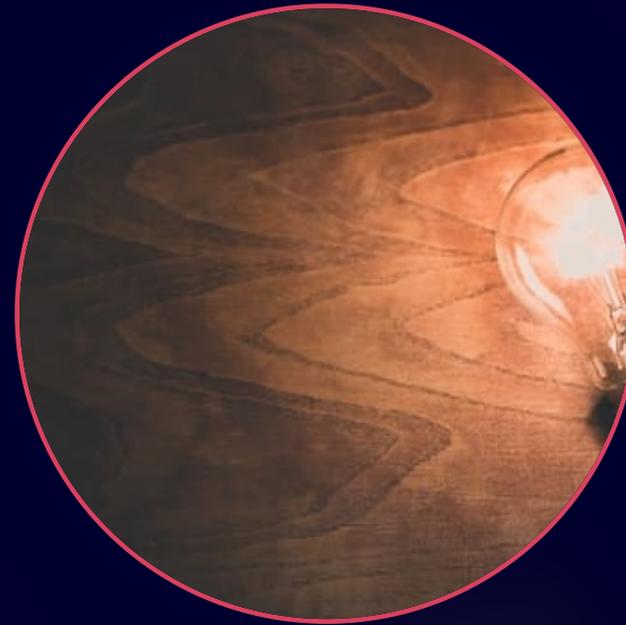
https://www.wired.com/story/apple-ghosts-the-generative-ai-revolution/

The Innovation Process

1 — Idea Generation 💡

Identify potential innovation opportunities through brainstorming, market research, and other techniques.

Idea Screening ✔️ — **2**

Evaluate ideas against market potential, feasibility, and other criteria to select the most viable options.

3 — Concept Development 🌟

Refine and expand the selected ideas by considering customer needs and market trends to develop a preliminary product or service concept.

Business Analysis 💰 — **4**

Evaluate the commercial potential of the concept by analyzing market demand, competition, profitability, and other factors.

5 — Product Development 🚧

Transform the concept into a tangible product or service through design, prototyping, and testing.

Test Marketing 📊 — **6**

Conduct small-scale testing and analysis of the product to gather feedback and improve the product features before launching it to the market.

Idea Generation

Techniques 🔍

1. **Diverse Methods:** Idea generation techniques include brainstorming, mind mapping, and the use of idea boxes.

2. **Structured Creativity:** These techniques provide a structured approach to stimulate creativity and generate new ideas.
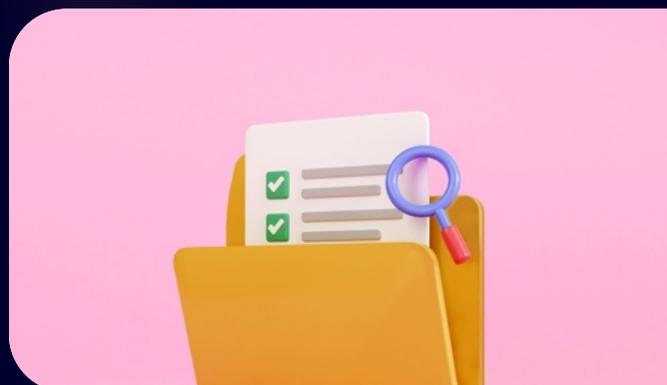
Importance 🦹

1. **Innovation Fuel:** Idea generation is the starting point of innovation, providing raw material for new products, services, or processes.

2. **Competitive Edge:** It helps organizations stay competitive by continuously exploring opportunities for improvement and growth.

Real-World Application:

- Google's use of AI chatbots like ChatGPT and Google Bard in their hiring process. These AI tools help in generating ideas about different roles, understanding job requirements, preparing for interviews, and improving resumes. This innovative use of AI in recruitment has streamlined Google's hiring process and improved the quality of candidates

WIRED

All the Ways ChatGPT Can Help You Land a Job

Whether you use ChatGPT, Bard, or Bing, your favorite AI chatbots can help your application stand out from the crowd.

https://www.wired.com/story/chatgpt-google-bard-bing-ai-help-find-job/

Idea Screening

① Criteria 🔍

1. **Feasibility:** The criteria for idea screening often include feasibility, potential impact, alignment with business strategy, and market potential.

2. **Risk Assessment:** It also involves assessing the risks, costs, and technical capabilities required for implementation.

② Role ✔️

1. **Quality Control:** Idea screening acts as a quality control stage in the innovation process, ensuring only viable ideas are pursued.

2. **Resource Allocation:** It helps in efficient allocation of resources by eliminating ideas that are not worth pursuing.

Example: KLM

1. A small team worked daily on the company's smallest fleet, trying to figure out ways to reduce the turnaround times. After a week-long intensive idea screening work session, the team developed 14 different action plans that could be implemented within 3-6 months.

   a. **Efficiency Improvement:** KLM reduced aircraft turnaround times from 50 to 35 minutes.

   b. **Financial Impact:** This efficiency improvement transformed KLM's Europe Network's financial performance, turning losses into profits.

Concept Development

Development 🚧

1. **Idea Expansion:** Concept development is the process of elaborating and refining a selected idea into a detailed concept.

2. **Blueprint Creation:** It involves creating a blueprint of the product, service, or process, outlining its features, benefits, and how it will work.

Importance 🎨

1. **Clarity:** Concept development provides clarity, turning abstract ideas into concrete plans that can be implemented.

2. **Risk Reduction:** It helps identify potential issues early, reducing risks and increasing the chances of successful implementation.

Examples of Concept Development:

1. **Tesla's Cybertruck:**

   a. **Concept:** Tesla turned Elon Musk's vision of a futuristic electric truck into a detailed plan.

   b. **Development:** They defined unique features, tested the concept, and refined it based on feedback.
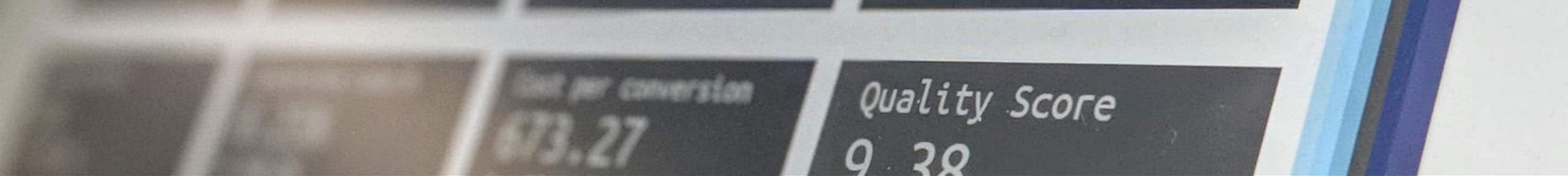
Business Analysis 1/2

Evaluation 💼

1. **Assessment:** Evaluation involves assessing the potential impact of an innovation on the market and the organization.

2. **Value Estimation:** It estimates the potential return on investment and the value it could bring to customers.

Analysis 🔍

1. **Detailed Examination:** Analysis involves a detailed examination of the innovative idea, including its feasibility, cost, required resources, and potential risks.

2. **Strategic Fit:** It assesses how well the innovation aligns with the business's strategic goals and objectives.

3. **Examples**

   a. **Microsoft's Bing:** Microsoft conducted a business analysis for their new search engine, Bing. The evaluation assessed the potential impact on the market and the value it could bring by challenging Google's dominance. The analysis examined the feasibility of creating a competitive search engine and its alignment with Microsoft's strategic goals.

   b. **Pfizer's mRNA Vaccine:** Pfizer conducted a business analysis for their mRNA COVID-19 vaccine. The evaluation estimated the potential global impact and value in terms of public health and revenue. The analysis involved a detailed examination of the feasibility of producing the vaccine at scale and its alignment with Pfizer's mission to improve global health.

Product Development

① **Transformation** 🛠️

Turn a concept into a tangible product or service through design, prototyping, and testing.

② **Role** 📋

Prototyping and iterative development allow for refining the product based on feedback and testing results.

Test Marketing

Importance 🧪

1. **Risk Mitigation:** Test marketing allows organizations to evaluate the potential success of a new product or service before a full-scale launch, reducing the risk of failure.

2. **Feedback Collection:** It provides valuable feedback from a sample of the target market, which can be used to make necessary adjustments

Methods 📊

1. **Controlled Test Markets:** These are artificial environments, like online platforms or specific store locations, where the new product or service is introduced to gauge customer response.

2. **Standard Test Markets:** These involve launching the product in a limited geographical area to observe its performance in a real-world setting.

Examples:

1. **Controlled Test Market:** Before launching its "Secret Recipe Fries" nationwide, KFC tested the product in select markets to gather customer feedback and make necessary adjustments.

2. **Standard Test Market:** Coca-Cola used standard test markets to test "New Coke" before its infamous launch in the 1980s. Despite positive results in the test markets, the product was not well-received nationwide, demonstrating the limitations of test marketing.

Commercialization

Launch at the Right Time

Timing is key for launching a new product successfully.

Market Research

Assess the market's readiness for the new product.

Distribution Strategies

Choose the best strategies for distributing the product.

- The final stage in the innovation process is commercialization
- This involves launching the innovation in the market
- It includes marketing and distribution activities aimed at reaching the target audience

Commercialization Gone Wrong

- A recent example is the delay in the production of Tesla's Cybertruck

- Originally announced in 2019 with a release date in 2021, the Cybertruck has faced multiple delays.

- The most recent update from Tesla CEO Elon Musk in February 2023 indicates that the Cybertruck's production has been delayed again, now expected to start in 2024.

- This delay has been attributed to various production issues and design complexities.

MarketWatch

Tesla's Cybertruck delayed again—when will we see it?

The truck inspired by 'Blade Runner' has been delayed several times, but there are reasons to believe the Cybertruck is closer t...

https://www.marketwatch.com/story/teslas-cybertruck-delayed-againwhen-will-we-see-it-11675441998#:~:text=Coming%20in%202021%3B%20No%2C%202022,%3B%20No%2C%202023%3B%20No%E2%80%A6&text=When%20Musk%20announced%20the%20Cybertruck,leave%20factory%20doors%20this%20summer

Organizational Culture and Innovation

① Values Creativity

A culture that values creativity can significantly boost innovation.

② Encourages Experimentation

Organizations that encourage experimentation are more likely to innovate.

③ Learns from Failures

Learning from failures enables organizations to improve innovation performance.

- A culture that values creativity, risk-taking, and learning can significantly boost innovation.

- Innovative organizations are open to new ideas, encourage experimentation, and learn from failures.

- They create an environment where employees feel safe to express their ideas and take risks, which is crucial for innovation.

Leadership and Innovation

Inspiration

Transformational leadership inspires employees to innovate.

Resources

Serving leadership provides necessary resources for innovation.
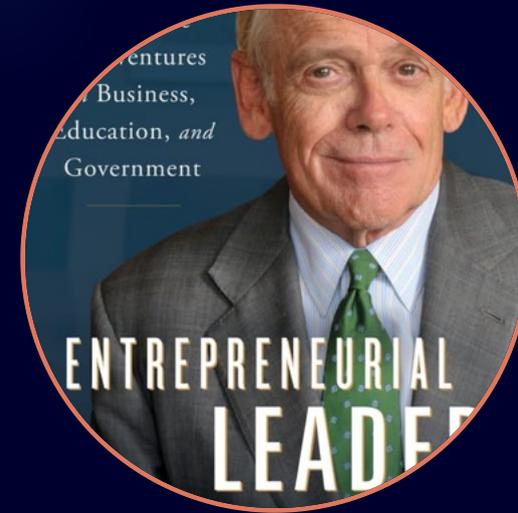
Environment

Entrepreneurial leadership creates an environment conducive to innovation.

Leadership styles that foster innovation include:

- transformational leadership, which inspires employees to exceed their own individual performance goals

- serving leadership, which focuses on the growth and well-being of employees

Innovation Metrics

Innovation ROI

Measures return on investment for innovation projects.

Innovation Funnel Efficiency

Measures the efficiency of the innovation pipeline.

Innovation Balance

Measures the balance of incremental and breakthrough innovation.

Time to Market

Measures the time it takes to launch a product from ideation to market.

Key innovation metrics can include:

- innovation ROI, which measures the return on investment for innovation activities

- innovation funnel efficiency, which measures how effectively ideas are converted into innovations

- innovation balance, which measures the balance between different types of innovation

Innovation Accounting: A Framework for Organizational Success

Innovation Accounting provides a structured approach to measuring and managing innovation progress, while using quantifiable metrics and data-driven insights.

A companion to The Corporate Startup

Innovation Management Tools

Project Management Tools

Tools for tracking progress and milestones.

1 **2** **3**

Idea Management Systems

Tools for managing the flow of ideas and feedback.

Innovation Analytics Software

Tools for measuring innovation performance.

The Invincible Company Framework
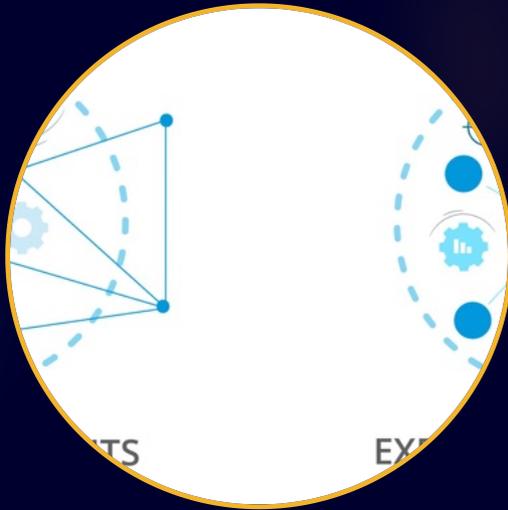
Exploration vs. Exploitation

The Invincible Company Framework helps organizations balance their exploration (innovation and experimentation) and exploitation (improving and scaling existing business models) activities to foster growth and long-term success.

Strategic Growth Roadmap

The Framework provides a clear, streamlined process to explore, validate, prioritize, and scale innovation projects.

Portfolio Management

The Framework leverages the management of multiple business models to align with overall growth strategies.

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Innovation Management Challenges

Resistance to Change

Resistance to change is a common challenge in managing innovation.

Lack of Resources

Insufficient resources can hinder innovation performance.

Measuring Innovation Performance

Measuring innovation performance can be challenging but is crucial for success.

Common challenges include resistance to change, lack of resources, and difficulty measuring innovation performance. However, these challenges can be overcome with the right strategies:

- Fostering a culture of innovation

- securing leadership support

- using appropriate innovation metrics

can help address these challenges and create an environment conducive to innovation

Recent Trends in Innovation Management

AI in Innovation Management

AI is increasingly being used to streamline innovation management.

Open Innovation

Open innovation involves leveraging external sources of innovation.

Twin Transformation

Digital AND Sustainable transformation is impacting innovation management.

- AI in innovation management

  - can automate routine tasks, provide predictive insights, and enhance decision-making

- Open innovation

  - leveraging external sources of innovation, such as customers, partners, and independent inventors

Real-World Applications for Open Innovation

- **C. TRUZZI, [Federated Learning to Revolutionize Data Privacy and Efficiency in Health Care](#)** 30 May, 2023

The EXAM study

- led by Nvidia's Global Head of Medical AI Mona G. Flores and other researchers.

- The aim of the study was to build a model using local data, as well as data across a federated network, to predict outcomes for patients who arrived at the emergency department with respiratory complaints

- potential to enable hospitals to collaborate and provide federated access to data without compromising patient privacy and security

A joint research study by Intel Labs and the Perelman School of Medicine at the University of Pennsylvania.

Federated learning use to help international health care and research institutions identify malignant brain tumors.

The study included an unprecedented global data set examined from 71 institutions across six continents and demonstrated the ability to improve brain tumor detection by 33 percent.

Open Innovation

1 — **Benefits of Open Innovation**

Open innovation can lead to more breakthrough innovations and reduce R&D costs.

2 — **Challenges of Open Innovation**

Challenges include IP protection and selecting the right external partners.

3 — **Strategies for Managing Open Innovation**

Strategies include selecting the right partners and creating a legal framework for collaboration.

Real-World Application of Open Innovation: Novartis & Wazoku

1
- Wazoku: A Global Innovation Management Software Company
  - Provides a platform called IdeaScale
  - Allows organizations to crowdsource ideas from employees, customers, and the public

2
- Novartis: A leading global medicines company
  - Used Wazoku's platform to crowdsource ideas
  - Aim: To improve and extend people's lives through innovative science and digital technologies

3
Companies are leveraging external sources of innovation to solve complex problems and drive growth.

The open innovation approach not only brings fresh perspectives but also fosters a culture of collaboration and creativity.

Wazoku

Crowd

Crowd Wazoku

Real-World Application of Twin Transformation

Role of Technology in Innovation Management

Supporting Idea Management

Technology can facilitate the idea generation process.

Enabling Collaboration

Collaboration tools can help teams work together and share ideas.

Providing Data for Decision-making

Data analytics tools can help inform innovation strategies.

Case Study :

AIoT as a De-siloing Tool

Innovation Ecosystems

The role of innovation ecosystems in promoting innovation: These are networks of organizations that collaborate on innovation, including businesses, universities, and government agencies.

Collaboration	Alignment	Knowledge Flow
Fostering collaboration	Aligning goals	Managing knowledge flows

- Purpose: These ecosystems are designed to enhance an organization's innovation capabilities.

- Components: The key players in an innovation ecosystem are diverse, each bringing unique perspectives and resources to the table.

Building and Leveraging Innovation Ecosystem

1 — **Building:**

Establishing an innovation ecosystem involves fostering relationships between various organizations and creating a culture of collaboration.

Leveraging: — 2

Organizations can leverage these ecosystems by sharing resources, knowledge, and expertise to drive innovation.

3 — **Benefits:**

Enhanced innovation capabilities, increased knowledge sharing, and access to diverse resources and perspectives.

The Quadruple Helix Model in Innovation Ecosystems

Academia → Businesses → Government Agencies → Civil Society → Academia
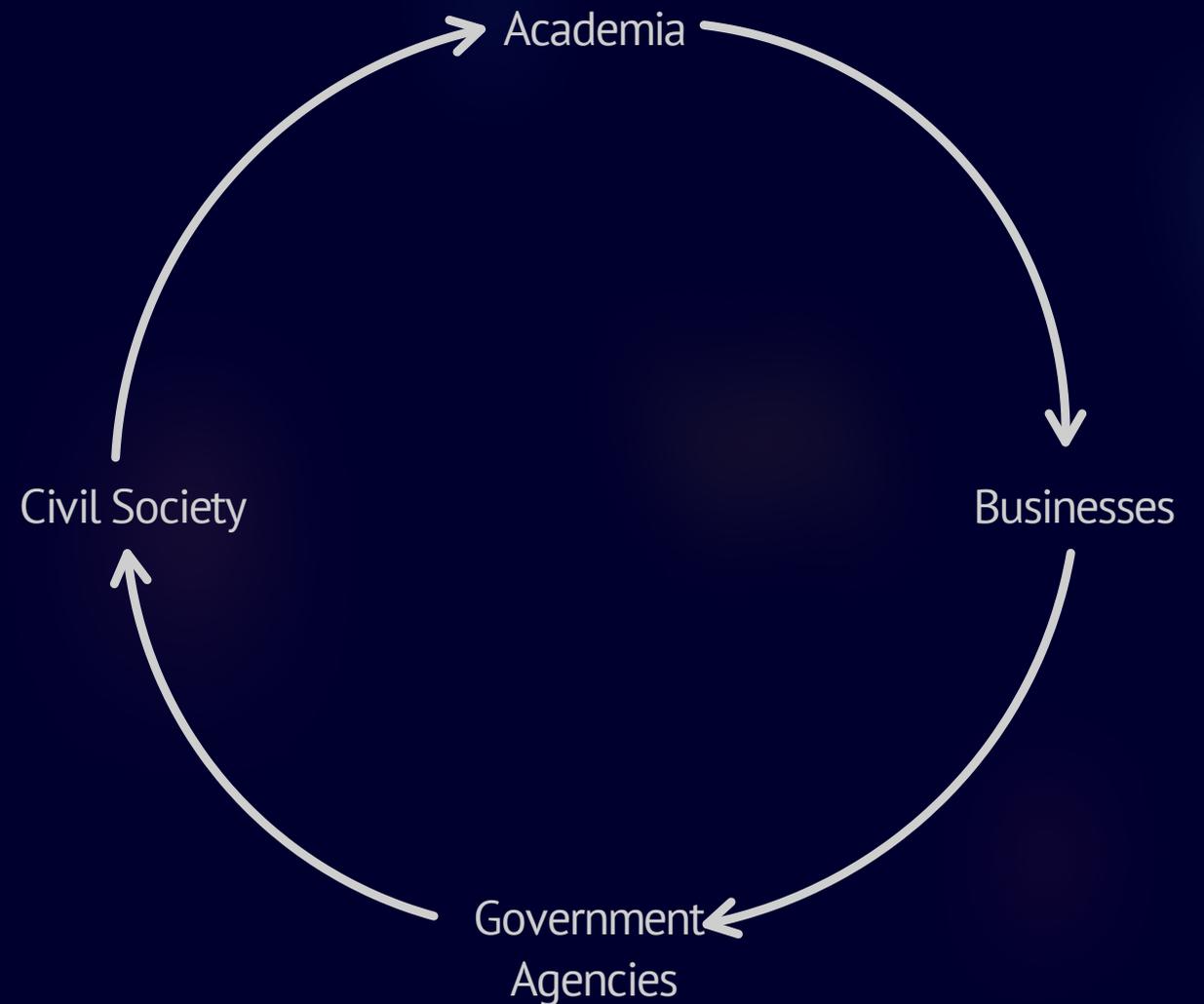
- The Quadruple Helix model extends the innovation ecosystem concept by including civil society (or the public) as a fourth helix, alongside businesses, universities, and government agencies.

- Role: This model emphasizes the importance of public engagement in driving innovation.

- Impact: By including civil society in the innovation process, organizations can ensure that their innovations are more aligned with societal needs and expectations.

4-Helix - Real-World Success Story

FARI, Inter-University Institute on AI, Data and Robotics for Common Good

Q&A Session

Continuous Learning

Staying updated with current trends

- Online courses
- Industry publications
- Networking events

Agility

Adapt to changing business environments

- Agile methodologies
- Scalable systems

Innovation Culture

Encourage creativity and risk-taking

- Flexible work environment
- Recognition for innovation

Key Success Factors in Innovation Management

Collaboration

Build a culture of teamwork and collaboration.

Creativity

Encourage creativity and out-of-the-box thinking.

Agility

Be quick to adapt to changing business environments and scale up.

Takeaways from the Presentation

Innovation Management

The importance of innovation management

Innovation Process

The stages of the innovation process

Types of Innovation

Different types of innovation

Recent Trends

Recent trends in innovation management

References

edX edX

Innovation, Management and Strategy by Mohan...

Learn with professor Mohan Sawhney, renowned management consultant for global leading companies, everything you need ...

edX edX

Corporate Innovation Capstone Assessment

Demonstrate your knowledge and understanding from the Corporate Innovation MicroMasters program.
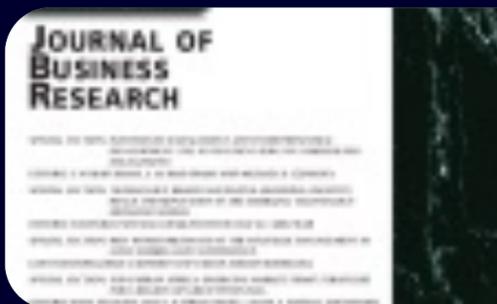
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Organizational innovation and creativity

Business world faces challenges and opportunities that require innovative approaches and a new set of skills. This online...

E www.sciencedirect.com

An integrative framework of stakeholder...

This article is the first to consolidate the state of scholarly research on stakeholder engagement in innovation manageme...

G www.strategyzer.com

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Innovation Accounting Book

Innovation Accounting - the new book by the autho...

Written as an add-on to The Corporate Startup, the Innovation Accounting book provides a practical guide for measuring you...

https://www.conference-board.org/publications/federated-learning-to-revolutionize-data-privacy-efficiency-in-health-care

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