Lecture: Process Innovation

Definition of Process innovation:

Process innovation is the implementation of new or significantly improved production or delivery methods, aimed at enhancing efficiency, reducing costs, and increasing speed. By redesigning workflows, introducing new technologies, or adopting methodologies like Lean or Six Sigma, companies create competitive advantages and improved customer experiences.

Process innovation refers to the continuous improvement of how work is done within a company. This is usually achieved by introducing new software or machinery, adopting new methodologies, or redesigning work practices. These changes enable companies to achieve better, cheaper, and faster outcomes.

Core Aspects of Process Innovation

Definition: Introducing new software, machinery, or methods to improve how work is done.
Scope: It covers production, delivery, support services, purchasing, and maintenance.
Goal: Achieving better, faster, and cheaper outcomes while enhancing productivity.

Examples and Techniques

- **Automation:** Using chatbots for customer service or implementing Robotic Process Automation (RPA) for repetitive tasks.
- **Techniques:** Adopting "lean services" to eliminate waste or using, according to i-lab@HE, Six Sigma for quality control.
- **Logistics:** Using AI-based route optimization to reduce fuel consumption.

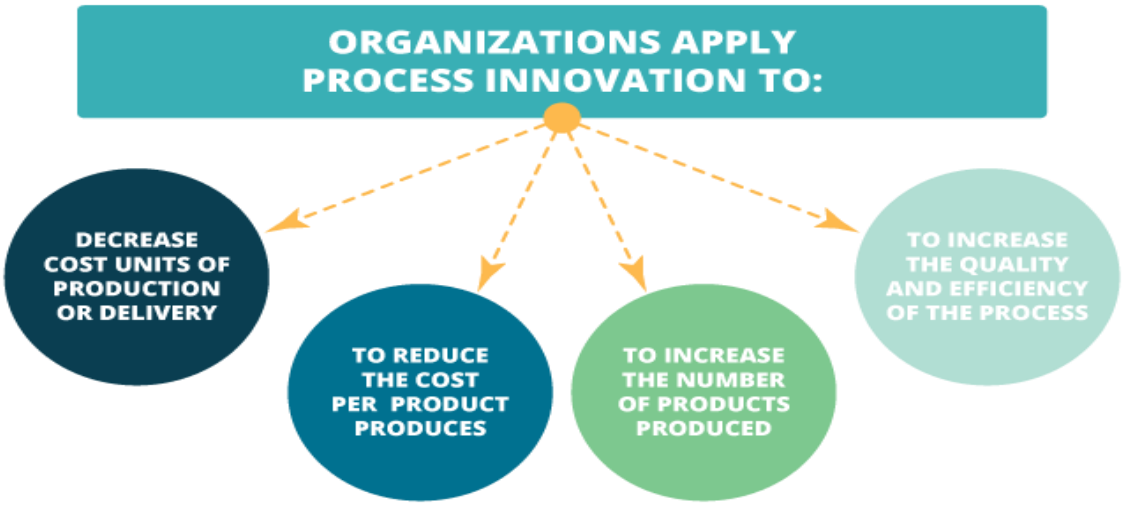
Examples of process innovation:

- A customer support team spends 30 hours per week on customer support. So, they purchase chatbot software to automate responses to frequently asked questions, allowing them to spend just five hours a week on the phone.

- A trucking company wants to cut costs and learns that fuel is one of its biggest expenses. So, it adopts route management software to minimize time on the road and save fuel.

Key Benefits

- **Cost Reduction:** Lowers operational expenses, improving financial performance.
- **Improved Quality & Consistency:** Standardizing operations leads to higher quality
- **Competitive Edge:** Allows for faster market response and better customer value



Steps for Implementing Process Innovation
Before explaing the steps, we should mention the requirements of this innovation as follows : Process innovation requirements: :

1. Understand the current state of process development;

2. Develop a clear future vision for the required process;

3. Develop a list of activities to be carried out to improve the process;

4. Providing the necessary resources for the implementation of the plan;

5. Control of execution.

As any kind of innovation, the process of process innovation should be organized in harmonized steps as the following:

1. **Identify Problems:** Analyze existing workflows and pinpoint bottlenecks or high-cost areas.
2. **Set Goals:** Establish clear, measurable objectives (e.g., reduce processing time by 20%

3. **Encourage Culture:** Empower frontline employees to share ideas and experiment.
4. **Test and Iterate:** Implement small experiments, learn, and scale successful improvements.

In other words, companies can improve process inefficiencies through the following steps:

1. **Idea collection:** Department managers ask teams to identify process inefficiencies and suggest improvements.

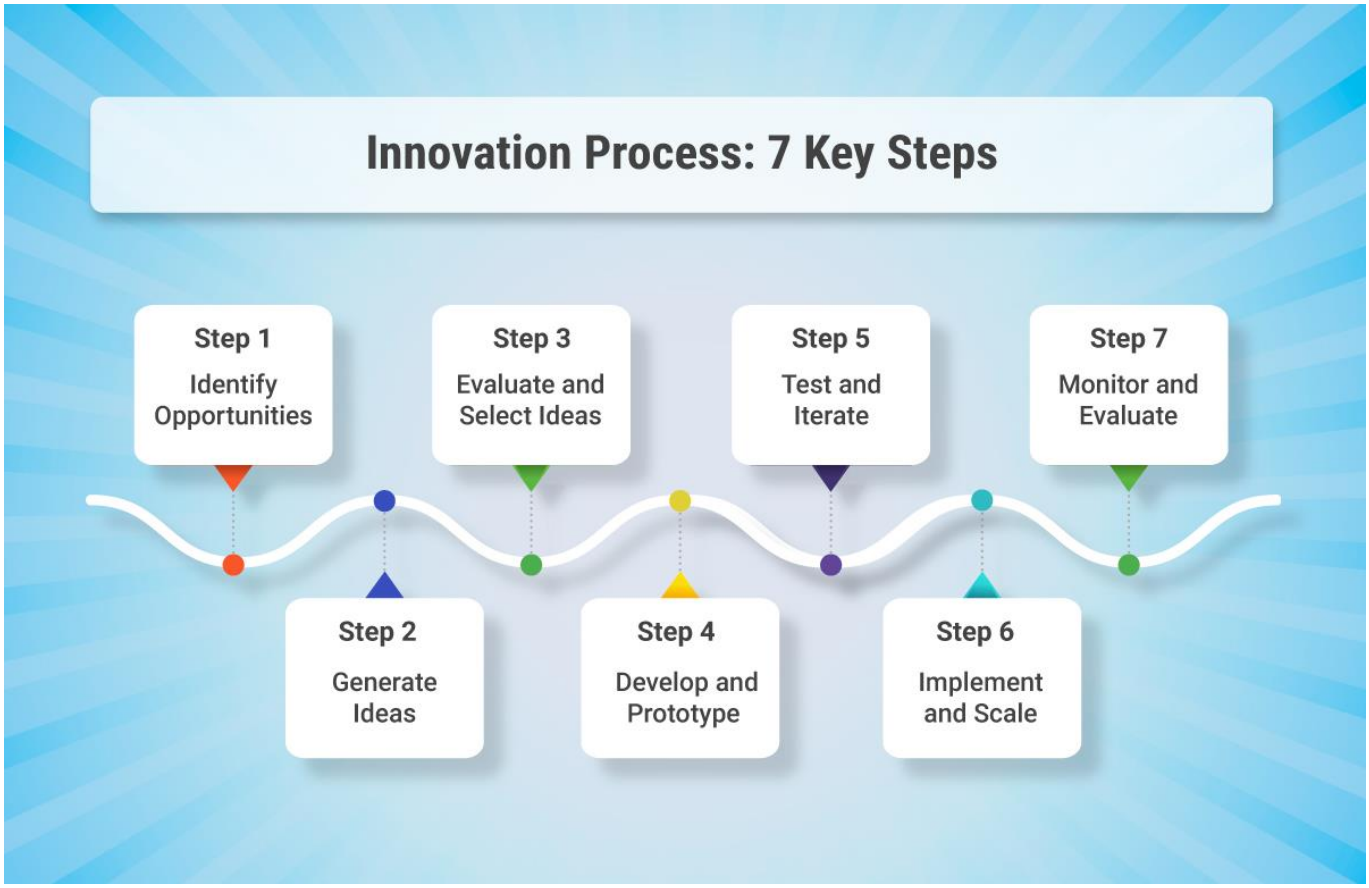
2. **Idea improvement:** Ideas are posted in an idea management system where employees with diverse skill sets from various departments (finance, legal, digital transformation, data analytics, etc.) can view and refine them.

3. **Idea evaluation:** The department manager (or process owner) uses an evaluation model to determine whether an idea is worth pursuing.

4. **Idea prioritization:** Subject matter experts and stakeholders vote on which ideas to implement first based on their potential impact, profitability, level of risk, and importance to the company.

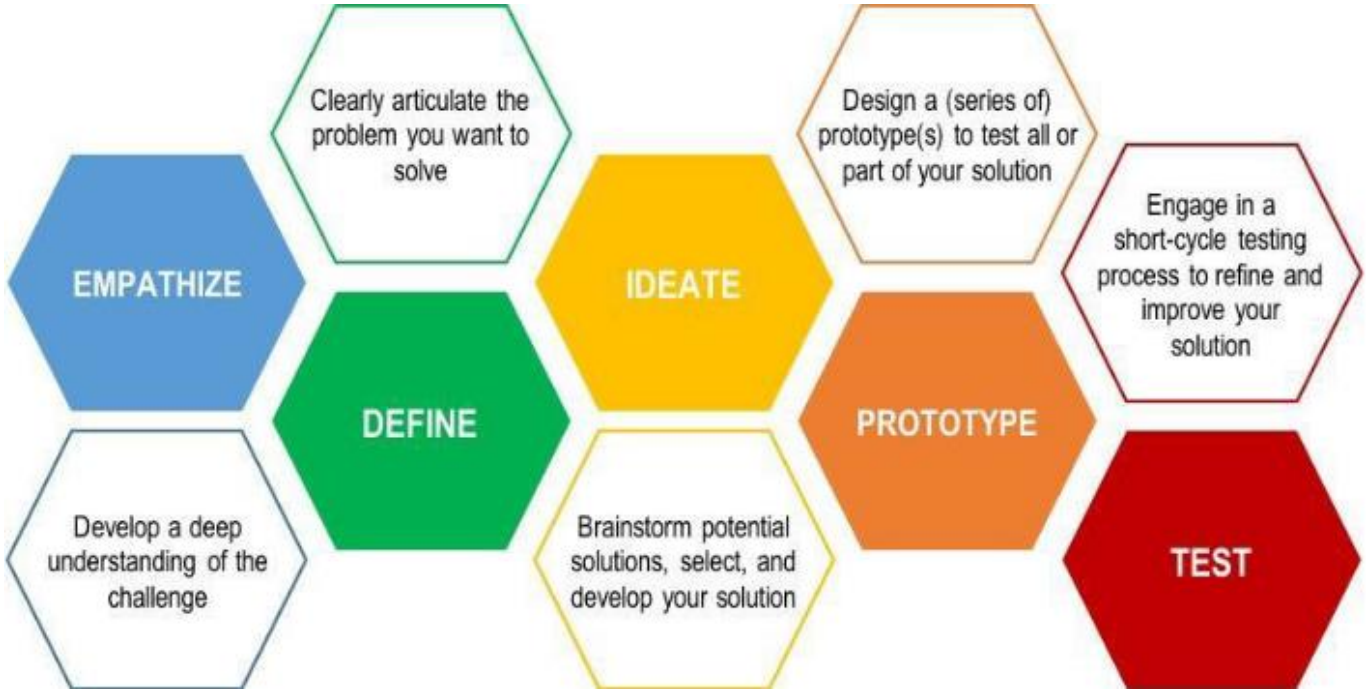
5. **Idea validation:** For high-risk, radical ideas, companies validate them by launching a pilot process, measuring its performance, and comparing it to existing processes.

6. **Implementation:** If an idea shows promise, the company launches the full-scale innovation. For simple process ideas, this may require purchasing a software license. For more complex ideas, the project management office develops a project plan with timelines, milestones, and implementation tasks.



The figure above illustrates a methodology for innovation/improvement efforts in processes. These are the essential steps for any kind of process innovation across sectors and geographies. Steps include defining the focus area for innovations and using technical tools, creating a multifunctional team, conducting a pilot run, processing feedback, and rolling out innovation for commercial use.

There are different stages of process innovation. While identifying and understanding opportunities, exchanging and selecting ideas, and developing innovation are the usual steps, they are often constrained when it comes to innovation in processes. The most effective methods of applying process innovation to work are the use of innovative methodologies and design thinking.


EMPATHIZE
Develop a deep understanding of the challenge
DEFINE
Clearly articulate the problem you want to solve
IDEATE
Brainstorm potential solutions, select, and develop your solution
PROTOTYPE
Design a (series of) prototype(s) to test all or part of your solution
TEST
Engage in a short-cycle testing process to refine and improve your solution