

# Entrepreneurship

## Lecture # 9



Saltanat Kondybayeva, PhD

Topic 9.  
**Managing Innovation in  
Small Business**



**managing innovation**

# PLAN

- 1. The meaning of the “Innovation management”**
- 2. Innovation Management Tools**
- 3. Innovation processes**



managing innovation

# The meaning of the “Innovation management”

**Innovation management** is a combination of the management of innovation processes, and change management. It refers both to product, business process, and organizational innovation.

# GOAL

Produce consistent,  
predictable outcomes



Risk  
Management



DESIGN  
THINKING



Innovation

# GOAL

Produce outcomes that  
meet desired objective

Reliability

50%-50% Mix

Validity

## 2.-What is Managing Innovation?

- Successful exploitation of new ideas.
- leading to the creation of a new product and service.
- It is more than just generating good ideas
- it is the process of growing them into practical use and bringing them to the market.



# Managing Innovation: Change

Managing innovation in a company involves organizational changes:

- Traditional management principles, processes and practices.
- Alters the way the work of management is performed:
  - Setting goals
  - laying out plans
  - Motivating and aligning efforts
  - Coordinating activities, etc





## How do you manage innovation?



**Innovation is a process with a number of distinctive features which have to be managed.**





**Business**

Making money and being successful.



**Innovation**

Doing things better and in new ways.



**Creativity**

Appreciation of art, beauty, simplicity and design for impactful experiences.



**Technology**

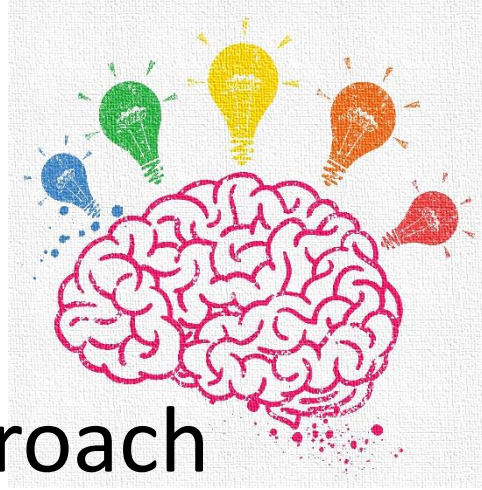
Specialist technical know-how, business enablement and integration.



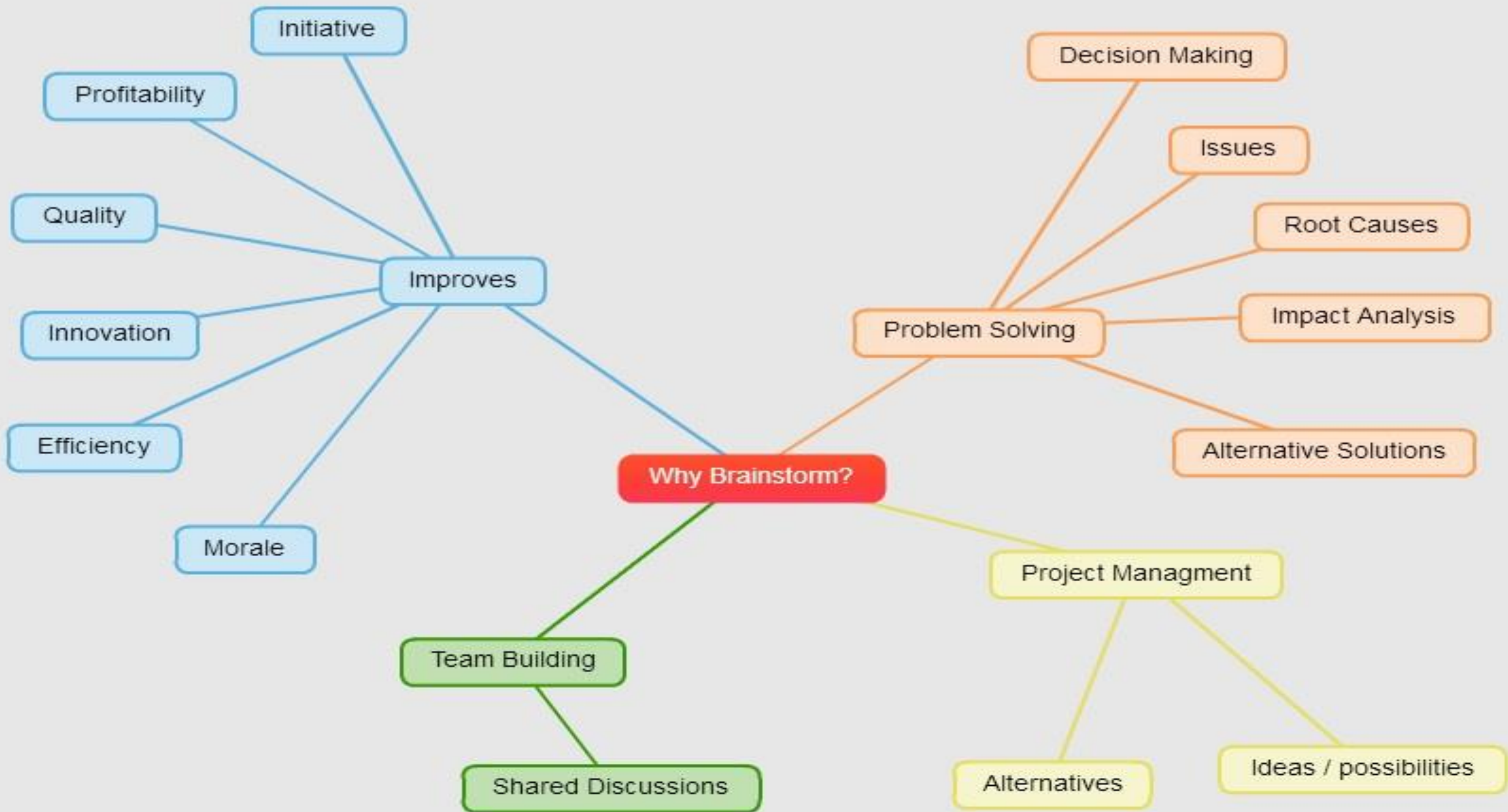
# Innovation Management Tools

Common tools include brainstorming, virtual prototyping, product lifecycle management, idea management, TRIZ, Phase-gate model, project management, product line planning and portfolio management.

# What Is Brainstorming?



Brainstorming combines a relaxed, informal approach to problem solving with lateral thinking. It encourages people to come up with thoughts and ideas that can, at first, seem a bit crazy. Some of these ideas can be crafted into original, creative solutions to a problem, while others can spark even more ideas. This helps to get people unstuck by "jolting" them out of their normal ways of thinking.



# Virtual prototyping

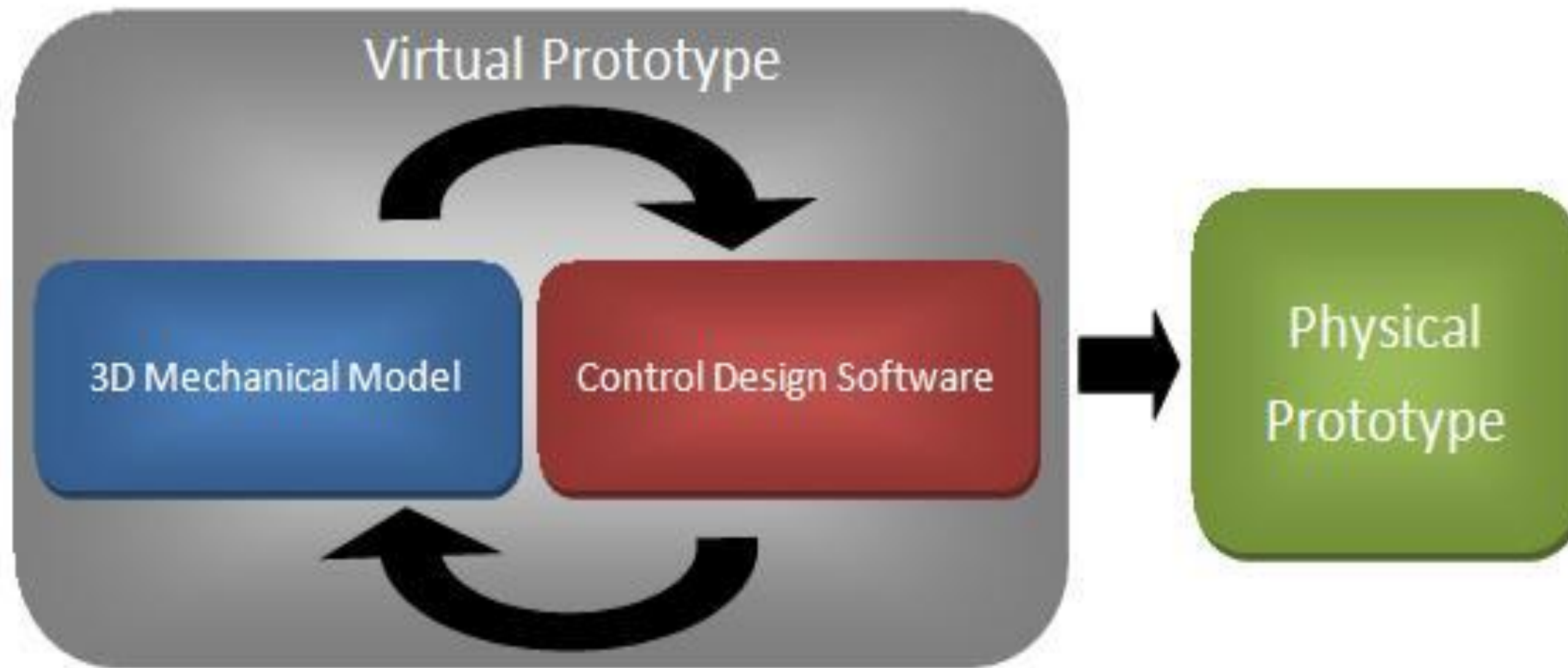
- **Virtual prototyping** is a method in the process of product development. It involves using computer-aided design (CAD), computer-automated design (CAutoD) and computer-aided engineering (CAE) software to validate a design before committing to making a physical prototype. This is done by creating (usually 3D) computer generated geometrical shapes (parts) and either combining them into an "assembly" and testing different mechanical motions, fit and function.

Virtual Prototype

3D Mechanical Model

Control Design Software

Physical  
Prototype





# Product Life Cycle Management

The observation of an item as it moves through the typical stages of development, growth, maturity and decline. Effective product life cycle management brings together the many companies, departments and employees involved with the product's production to streamline their activities, with the ultimate goal of producing a product that outperforms its competitors and is highly profitable.



# The most common steps in the life cycle of a product include the following phases

- *Product Development Phase* - Includes market analysis, product design, conception, and testing.
- *Market Introduction Phase* - Initial release of the product, usually marked with high levels of advertising.
- *Growth Phase* - Sales growth begins to accelerate, characterized with increasing sales year-over-year. As production levels increase, gross margins should steadily decline, making the product less profitable on a per-unit basis. An increase in competition is probable.
- *Maturity Phase* - The product will reach the upper bounds of its demand cycle and further spending on advertising will have little to no effect on increasing demand.
- *Decline/Stability Phase* - This is where a product has reached or passed its point of highest demand. At this point, demand will either remain steady or slowly decline as a newer product makes it obsolete.

# Product Life Cycle Challenges



# Idea Management

- Idea management is the ability to capture feedback or insights from internal and external stakeholders for the purpose of adding this feedback into future products or product releases.
- Every organization wants better ideas. But it is often too tough to capture them in a manageable way. And product teams need a way to quickly capture, categorize, and prioritize ideas. The best solution is to practice ideation -- the creative process of generating, developing, and curating new ideas.



## Problem Identification:

1. Root Cause Analysis & Definition
2. Applying Existing Knowledge to the Problem



## Idea Generation:

3. Applying Idea Generation Techniques



## Idea Management System:

4. Idea Input
5. Idea Feasibility Analysis
6. Idea Selection

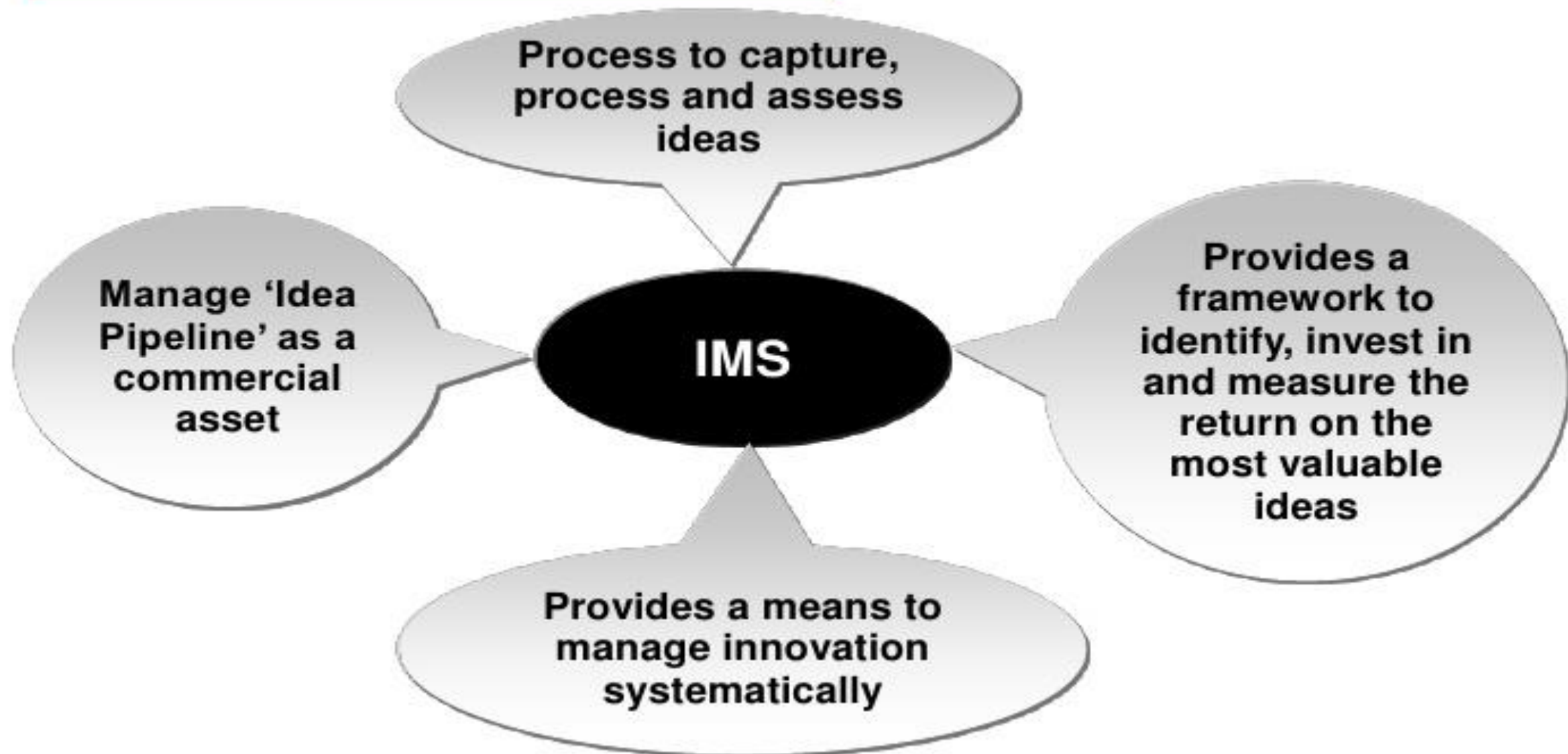


## Prototype & Implement:

7. Idea Implementation
8. Idea Feedback
9. Idea Changes

# Idea Management System

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# Portfolio management

Portfolio management is the art and science of making decisions about investment mix and policy, matching investments to objectives, asset allocation for individuals and institutions, and balancing risk against performance. Portfolio management is all about determining strengths, weaknesses, opportunities and threats in the choice of debt vs. equity, domestic vs. international, growth vs. safety, and many other trade-offs encountered in the attempt to maximize return at a given appetite for risk.

# there are two forms of portfolio management

- *Passive*

simply tracks a market index, commonly referred to as indexing or index investing

- *Active*

involves a single manager, co-managers or a team of managers who attempt to beat the market return by actively managing a fund's portfolio through investment decisions based on research and decisions on individual holdings



# Innovation processes

- *Pushed*

based on existing or newly invented technology, that the organization has access to, and tries to find profitable applications for

- *Pulled*

based on finding areas where customers needs are not met, and then find solutions to those needs.

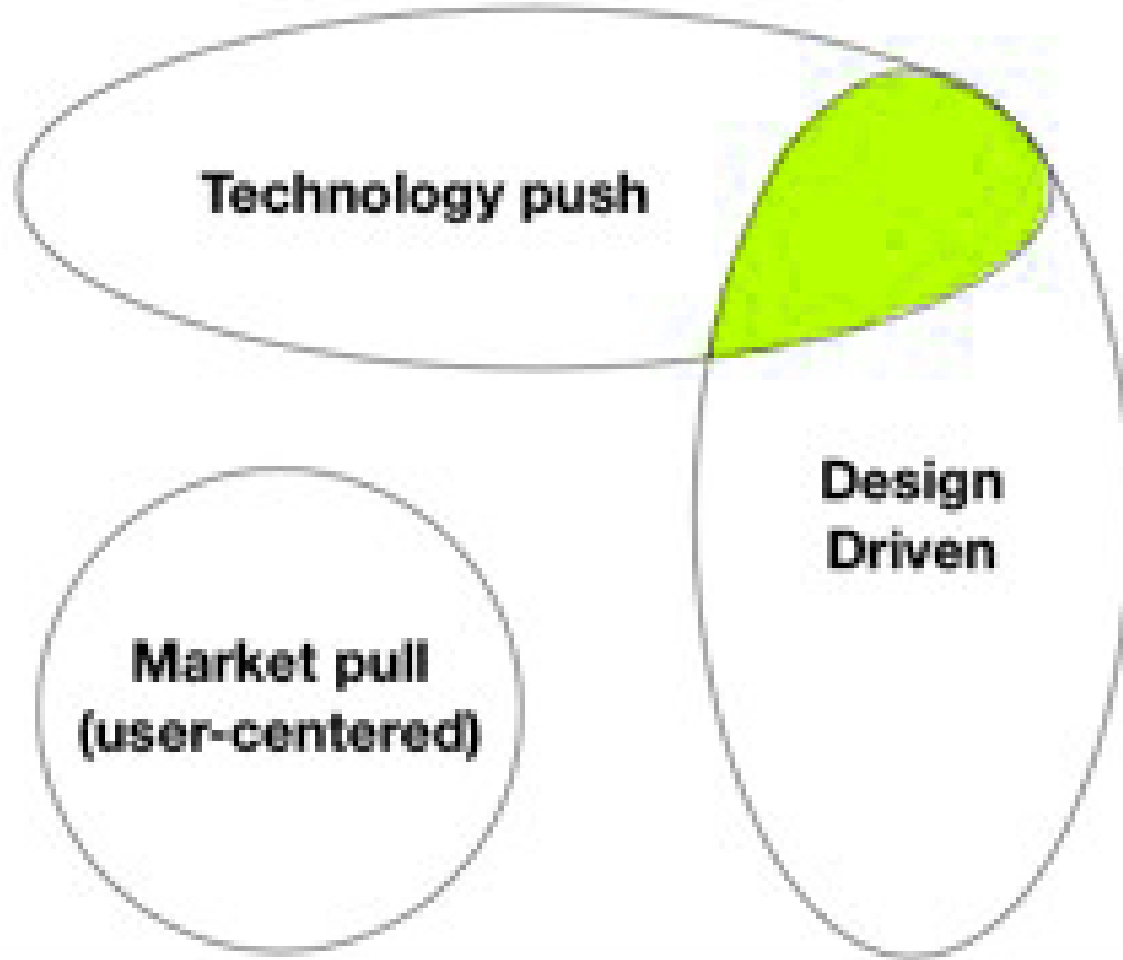
# Innovation processes

- The business terms *push* and *pull* originated in logistics and supply chain management, but are also widely used in marketing, and is also a term widely used in the hotel distribution business.
- Wal-Mart is an example of a company that uses the push vs. pull strategy.

**Technology**

Radical change

Incremental change



**Technology push**

**Design Driven**

**Market pull  
(user-centered)**

Incremental change

Radical change

**Meaning**

# push-based

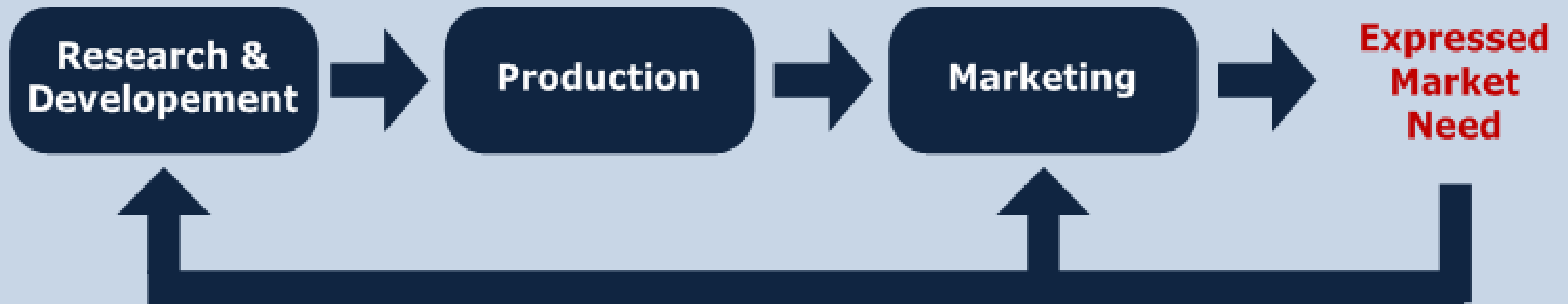
- Applied to that portion of the supply chain where demand uncertainty is relatively small
- Production and distribution decisions are based on long term forecasts
- Based on past orders received from retailer's warehouse (may lead to bullwhip effect)
- Inability to meet changing demand patterns
- Large and variable production batches
- Unacceptable service levels
- Excessive inventories due to the need for large safety stocks
- Less expenditure on advertising than pull strategy

# Technology push vs. Market pull

## Technology push



## Market pull (demand pull)



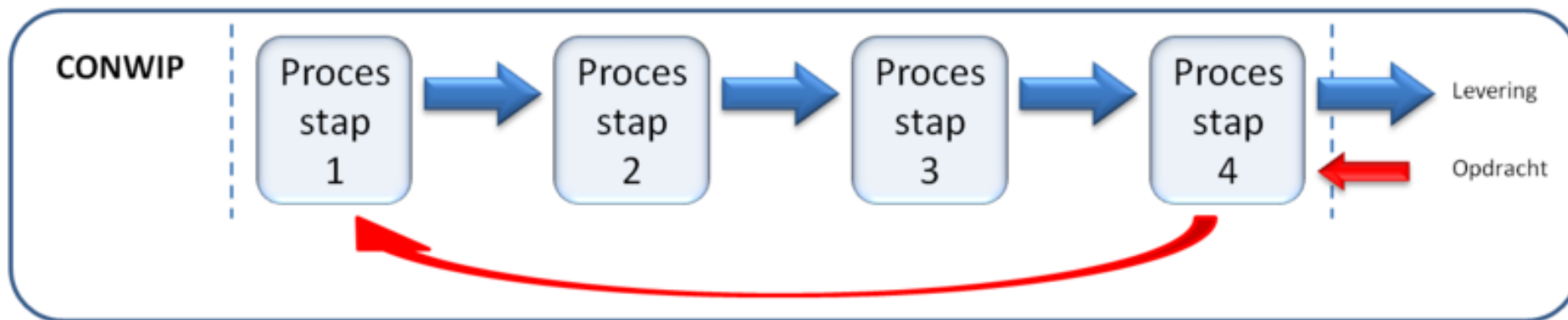
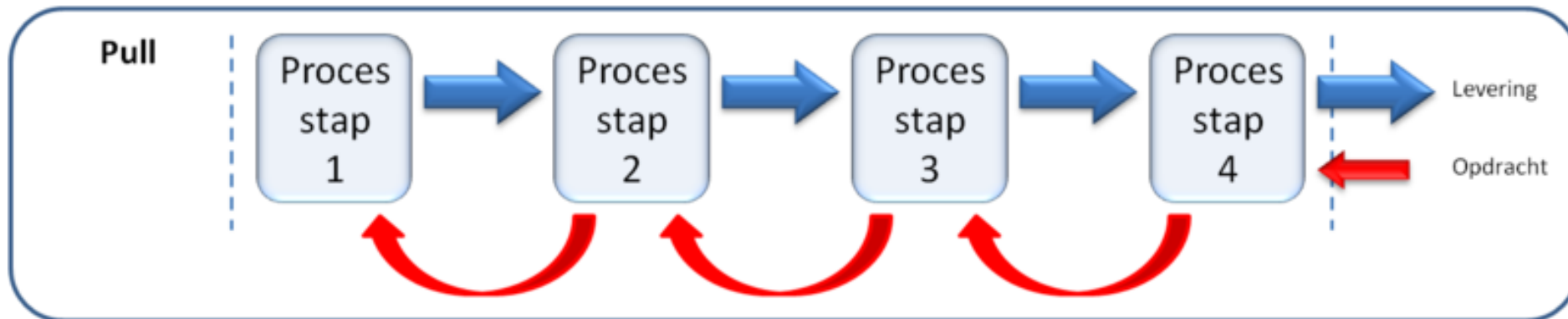
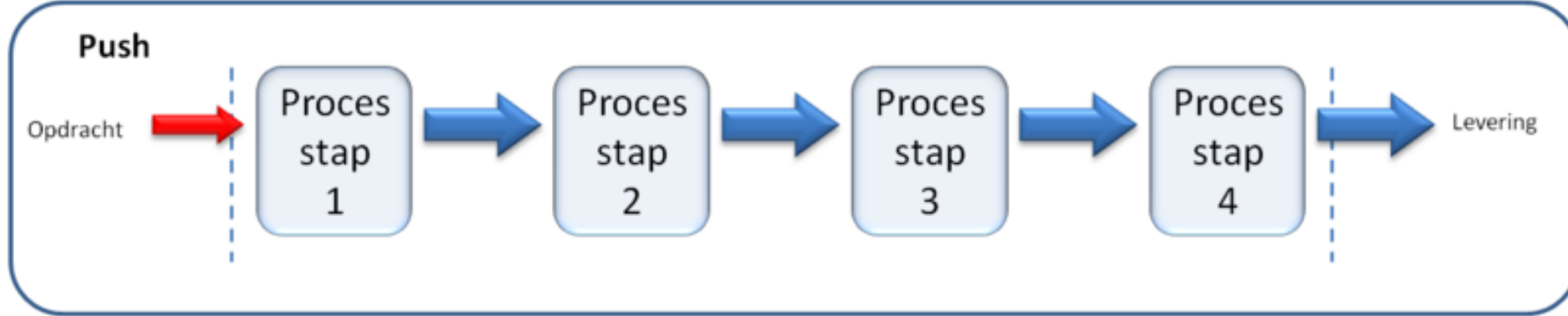
# *pull system*

- Applied to that portion of the supply chain where demand uncertainty is high
- Production and distribution are demand driven
- No inventory, response to specific orders
- Point of sale (POS) data comes is helpful when shared with supply chain partners
- Decrease in lead time
- Difficult to implement

# Use of pull, push, and hybrid push-pull strategy

- A push based supply chain strategy is usually suggested for products with low demand uncertainty, as the forecast will provide a good indication of what to produce and keep in inventory, and also for products with high importance of economies of scale in reducing costs.
- A pull based supply chain strategy, usually suggested for products with high demand uncertainty and with low importance of economies of scales, which means, aggregation does not reduce cost, and hence, the firm would be willing to manage the supply chain based on realized demand.

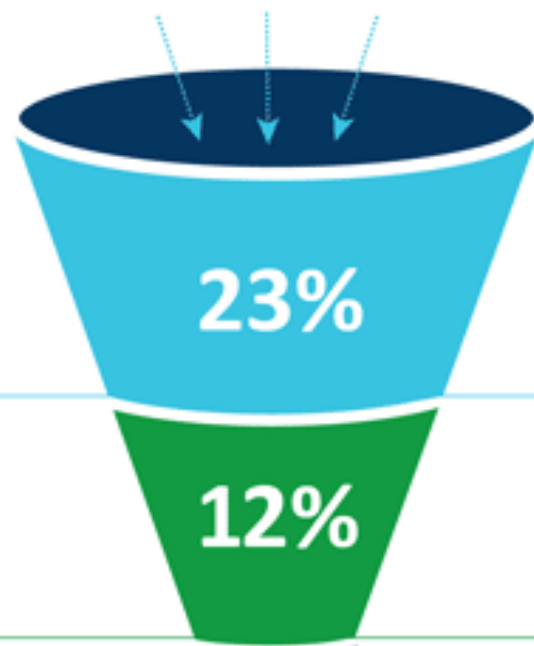




# Use of pull, push, and hybrid push-pull strategy

A hybrid push–pull strategy, usually suggested for products which uncertainty in demand is high, while economies of scale are important in reducing production and delivery costs. An example of this strategy is the furniture industry, where production strategy has to follow a pull-based strategy, since it is impossible to make production decisions based on long-term forecasts. However, the distribution strategy needs to take advantage of economies of scale in order to reduce transportation cost, using a push-based strategy

## Typical Companies Ideas In



Percent of ideas that make it to **feasibility**

Percent of ideas that make it to **development**

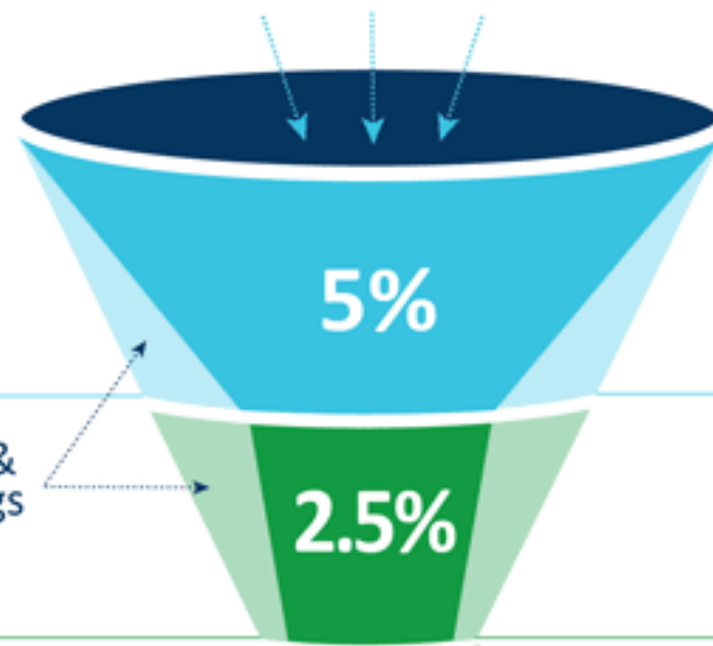
Overall percent of resources spent on **project failures**

Percent of **revenue** from products introduced in the past 5 years

**46%**

**25%**

## Best Practice Companies Ideas In



Resource & cost savings

**20%**

**49%**