

# MANAGEMENT OF TECHNOLOGY

## CRITICAL FACTORS IN MANAGING TECHNOLOGY

by

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# Chapter Outline

- The Creativity Factor
- The Timing Factor
- Managing Change
- Bringing Innovation to Market
- Technology and Its Enabler
- Essential Issues in Managing Technology

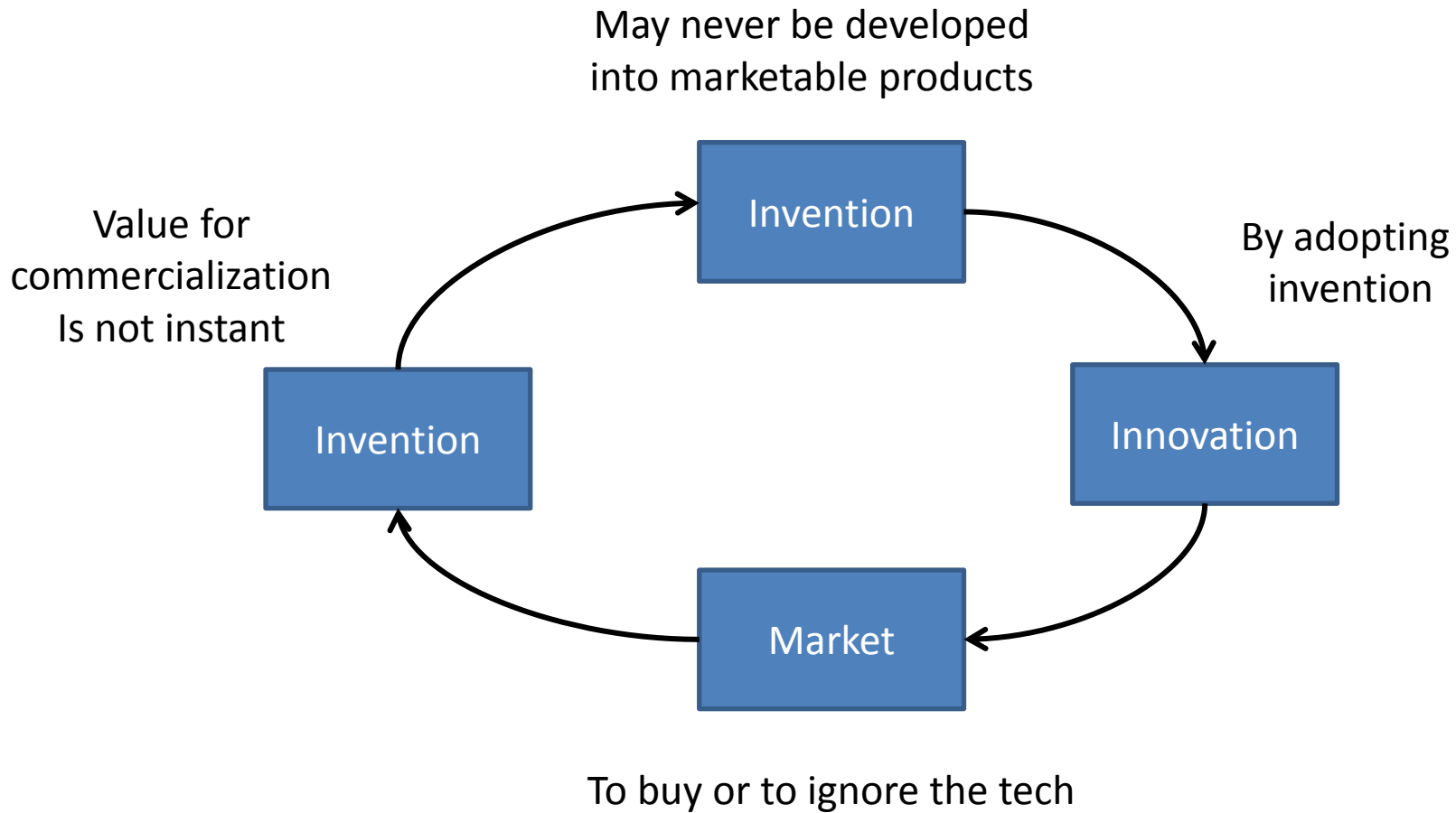


# Lesson Outcome

- Understand key factors in managing technology
- Explain requirements in managing change
- Know the issues in managing technology



# The Link between Science and Tech



# The Creativity Factor

Technology is the expression of human creativity

Invention	Innovation
Original creation to the world	New to the company
Only few are commercialized	Commercialized to the market
Steam engine, transistor, Xerox machine	Digital camera, smart phone, itunes
As an event	As a process
Individual	In a team



# The Creativity Factor

- Creativity leads to innovation.
- Inspiration? Not satisfied with what we have.
- 2 or more ideas → new grand idea
- Example : Johannes Gutenberg created printing press
- 3 ideas: A press, a movable type, wood blocks
- What does creativity depends on?
  - People
  - Environment

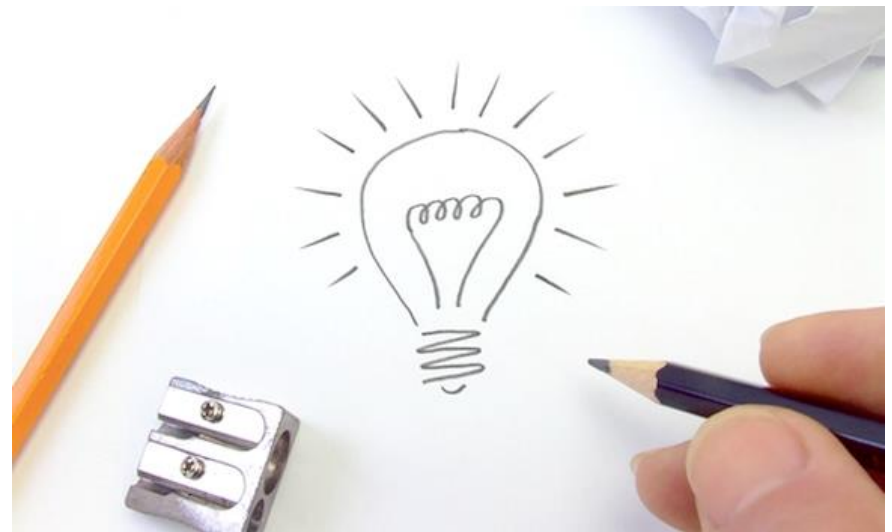


# Creative People

People that are creative → innovative!

Their ideas are:

- A large number
- Quickly generated
- Original
- Unusual
- Related to the problem arised
- Stand out



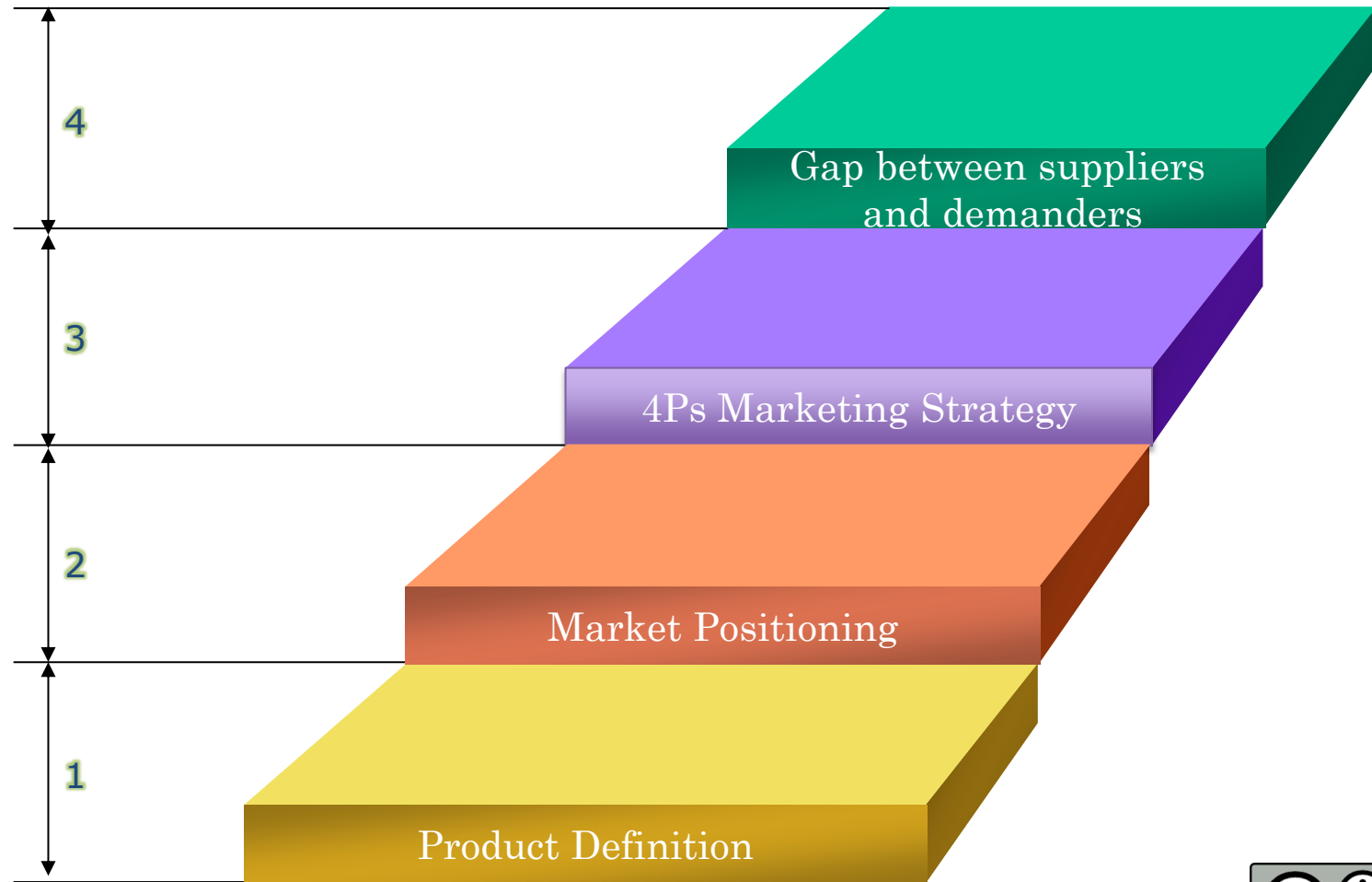
# Creative Environment

- Workers are placed in areas that they are passionate about
- Encourage brainstorming with colleagues
- Permits risks that are moderate
- Failures can be tolerated
- Giving recognition and awards





# BRINGING INNOVATION TO MARKET (Commercialization)



# The Timing Factor

----the timely creation and introduction of technology into the market place

Osborne: Lesson learnt?

## ***Time-based competition*** (TBC)

-Example: Fast Food firms

-Time is reduced in delivering the service from start until delivery.

## ***Just-in-time systems***

-Manufacturing firms

-Time wasted are compressed

-Any customer demands are responded quickly



# Managing Change

Managing Operation	Managing Innovation
Creating Today's Revenue	Total revenue is created
Route and Result is just one	Results and routes are multiplied
By Functional Teams	By Cross-Functional Teams
Clear, Shared Goals	Unclear, Often Conflicting Goals
Players & Roles are traditional	New Players & Role
DOING THINGS RIGHT	DOING RIGHT THINGS



# Technology and Its Enabler

Resources

Environment of the Business

The Structure & Management of Organizations

Project Planning & Management

Management of Human Resources



# Technology and Its Enabler

## Resources

### The Business Environment

### The Structure & Management of Organizations

### Project Planning & Management

### Management of Human Resources

Managers that live in competitive environment must be equipped with predictive methodologies and decision tools that are reliable, flexible, practical and fast.

- Their continued research, validation, refinement and application deserve a high priority.



# Technology and Its Enabler



To remain competitive, a firm must anticipate and evaluate technological opportunities before other firms attain an insurmountable competitive edge



# Technology and Its Enabler

Resources

The Business Environment

The Structure & Management of Organizations

Project Planning & Management

Management of Human Resources

Biggest challenge for organizations is harnessing and fully utilizing the capability of employees

Special attention should be accorded to the following points:

- The Effects of Technological Change on the Skill Requirements of the Workforce
- Matching and Training the Skilled Workforce to Meet the Requirements of New Technologies
- Obsolescence of Professional Staff and the Continuing Need for Professional Development Activities
- The Role of Technological Gatekeepers and Internal Entrepreneurs
- Social Consequences of Technological Change



# Summary

Organization will lose their competitiveness if fail to manage technologies in an effective and timely manner

Managing technology involves continuous effort in creating technology, developing novel products and services and successfully marketing them

5 essential issues in managing technology

A new managing style to adapt the changes is required for organization survival in current environment





**Credit to:**  
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