

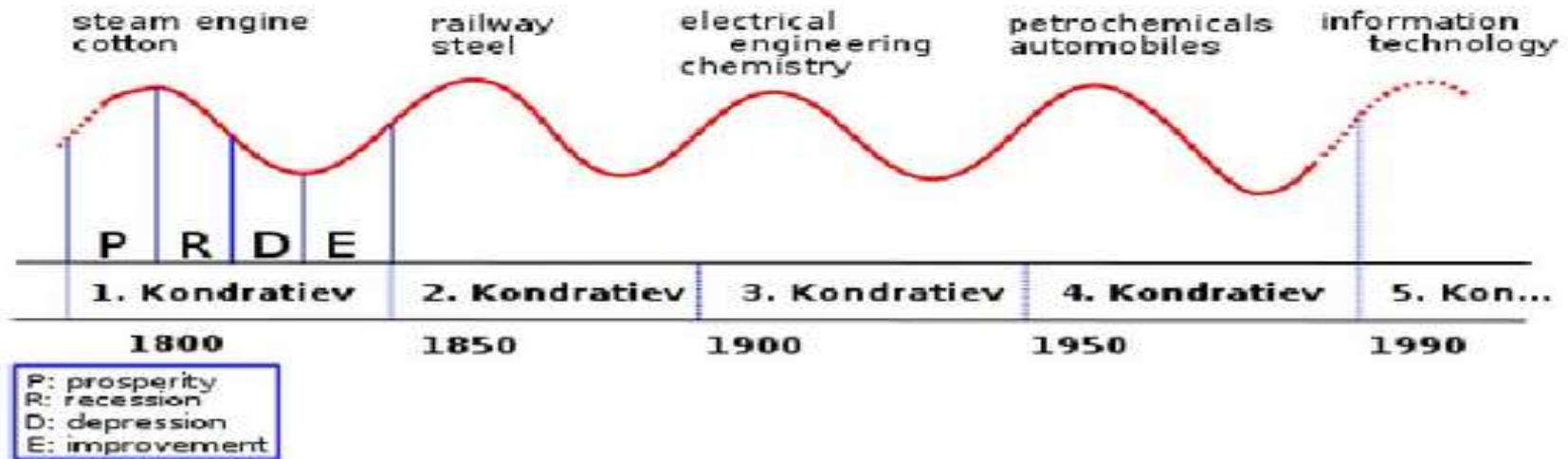
- Technology Evolution - Factors influencing technology firms –



Technology Evolution

- Kontrativ Wave:- Technology innovations are in long cycles, 40-60 years each representing the application of new group of technology which eventually will lead to another wave

Kontrativ Wave

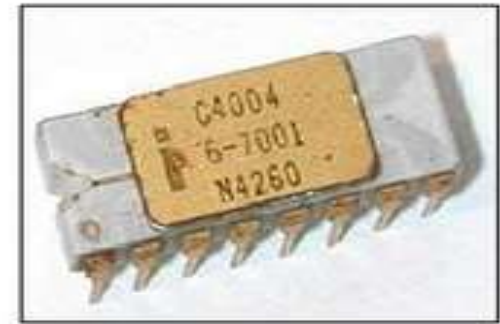
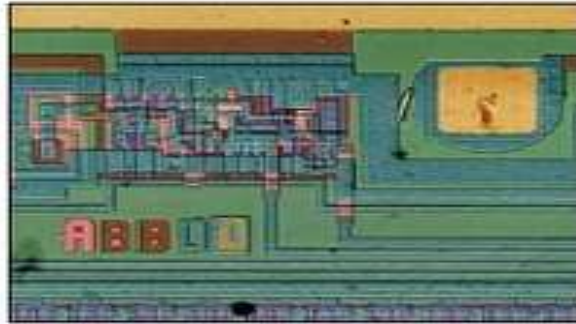
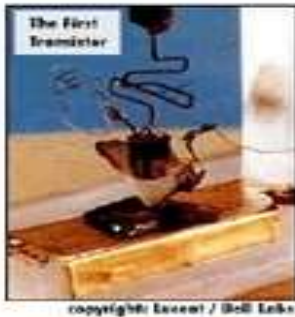


Kontrativ Wave

	Wave	Years
1	First Industrial Revolution	1787–1842
2	Railroad and Steam Engine Era	1842–1897
3	Age of steel, electricity and internal combustion	1897–1939
4	War and Post-war Boom: Suburbia	1939–1982
5	Post Industrial Era: Information Technology	1982? – ??

The Digital Revolution

Transistor, 1947



Integrated circuit, 1959

- Digital Revolution:- First computers were built using vacuum tubes and today cell phone is a powerful computers.

Technology Life Cycle

In the early days

The innovators and technology enthusiasts drive the market
They demand technology
Small percentage of the market



In the later days

The pragmatists and conservatives dominate; they want solutions and convenience
The big market



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iPad 2 as fast as Cray 2
supercomputer, fraction of the size

Cray 2 1985

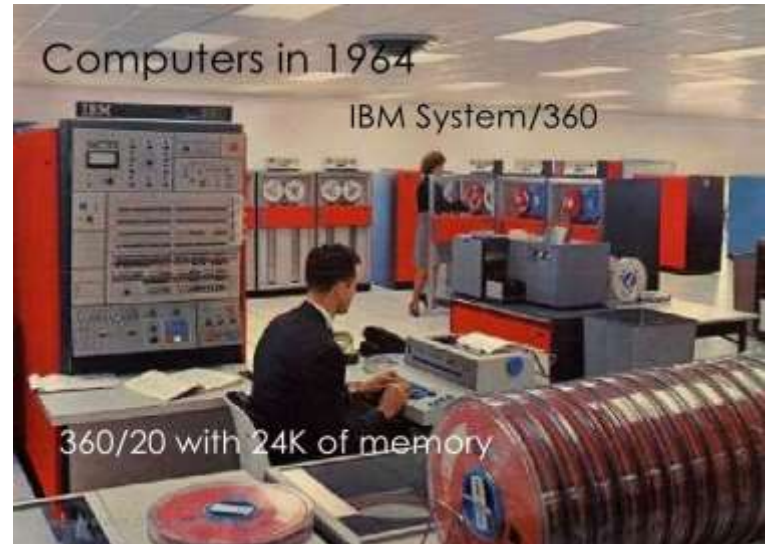


Apple iPad 2 2011



Computers in 1964

IBM System/360



360/20 with 24K of memory

New technologies are constructed from ones that already exist and these offer themselves as possible building-block elements for the construction of still further and more improve technologies.



Apple Computer Design Evolution

with Base Prices



Apple I — \$2400

1976



Apple II — \$1299

1977



Apple III — \$1199

1980



Apple Lisa — \$9999

1983



Macintosh — \$1999

1984



Apple IIc — \$499

1986



Macintosh Plus — \$1299

1987



PowerMac 5500 — \$1999

1995



iMac G4 — \$1299

1998



iMac G4 — \$1299

2002



iMac G4 — \$1299

2004



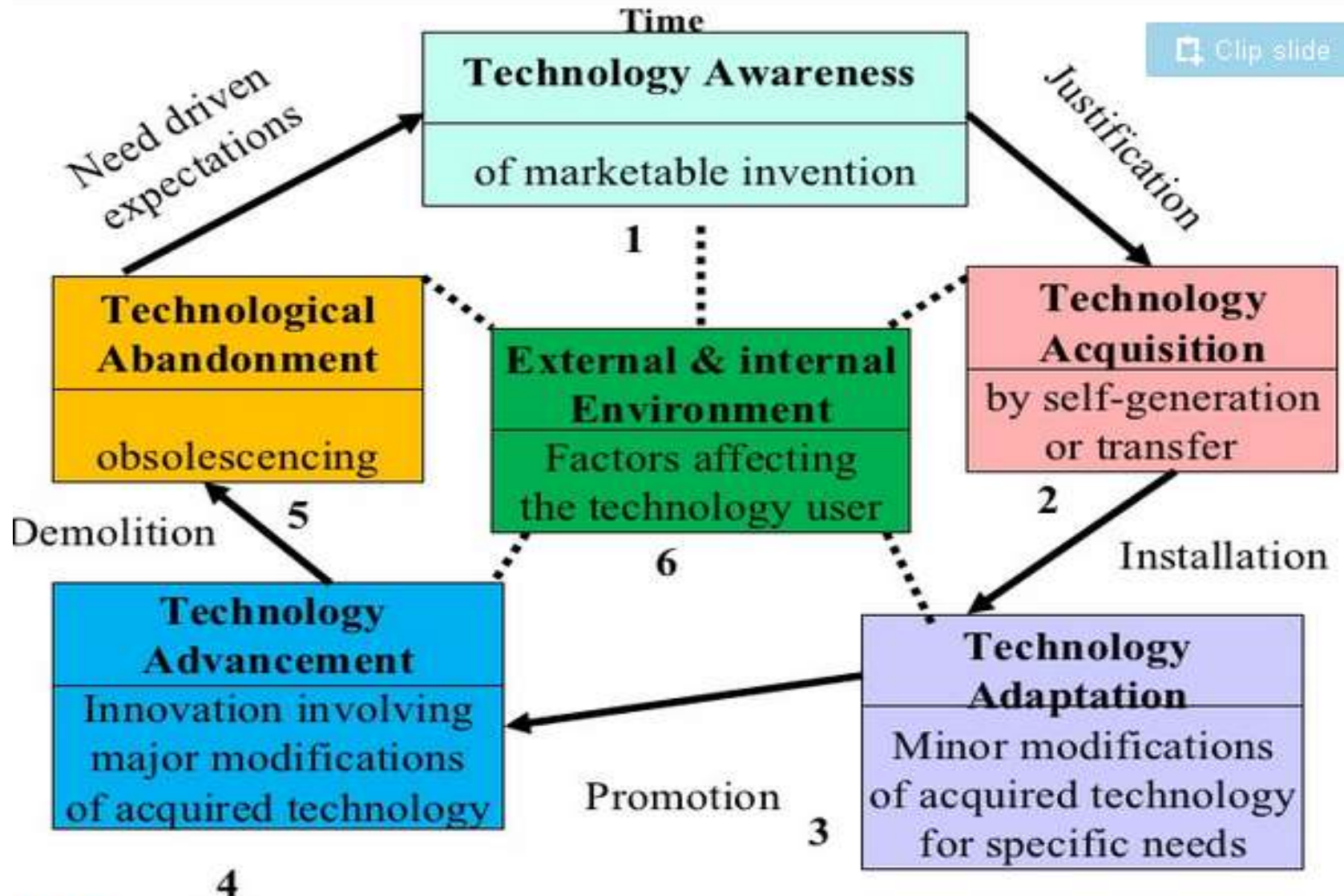
iMac G4 — \$1299

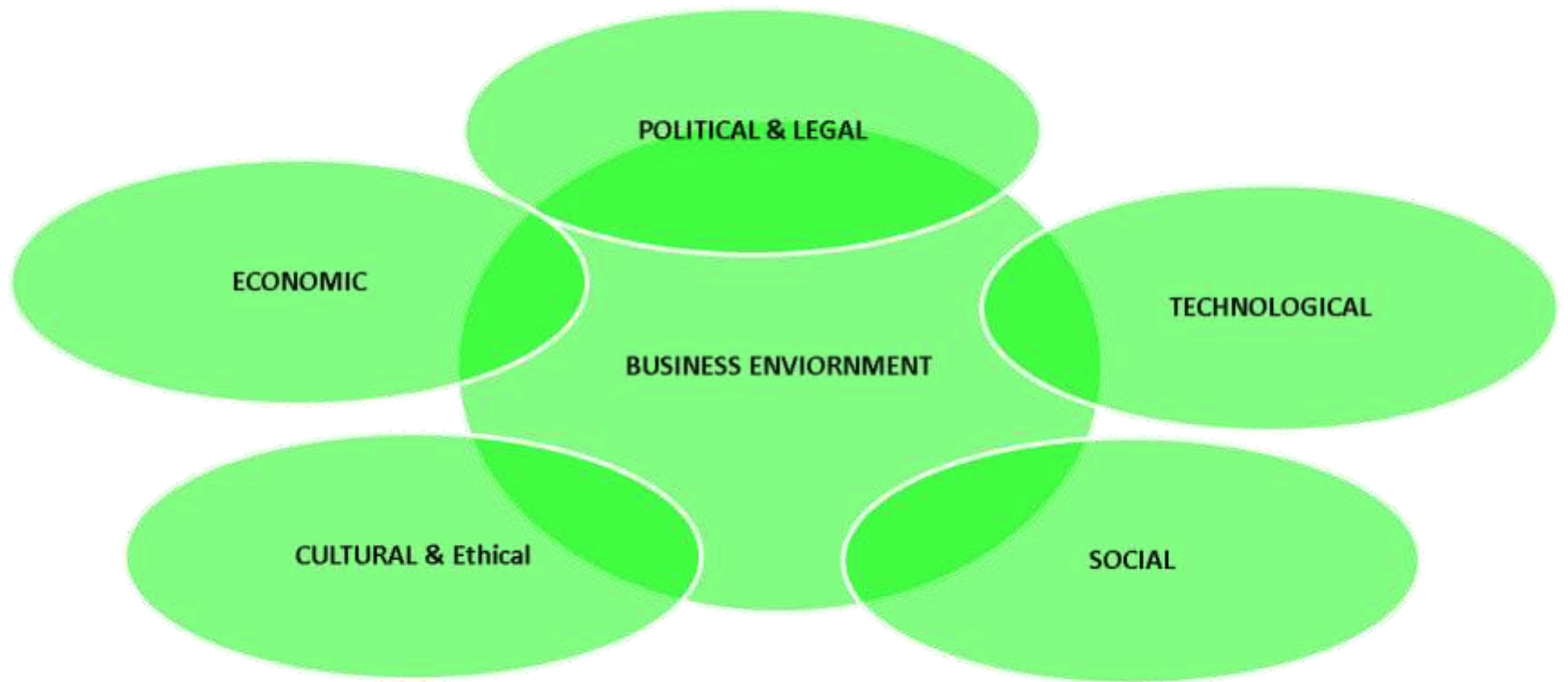
2009

Technology Evolution - Factors influencing technology firms

- ✓ In recent years, much attention has been given to high technology firms.
- ✓ Entrepreneurs, governments, investors, and academicians have been studying them with different objectives.
- ✓ Several studies have addressed the creation of new high-technology firms, but most of them focus on specific aspects of the process or on the characteristics of the technical entrepreneur.
- ✓ Technology-based companies can play a key role in the economic development and competitive position of an industrialized country.
- ✓ Although widely recognized, the capabilities of new technology-based industries for generating important areas of techno-economic activity and new market growth have still not been measured.

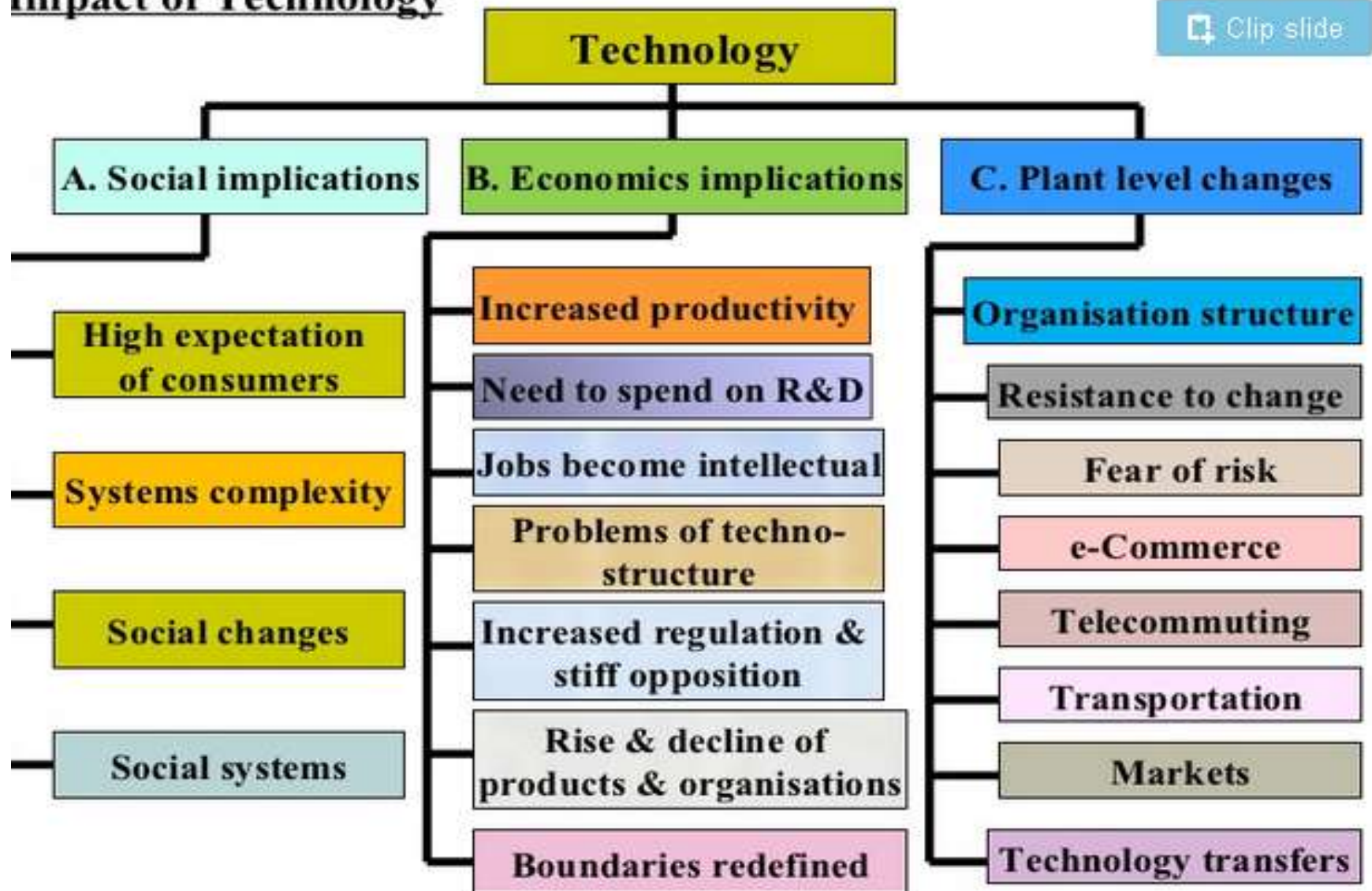
Factors Influencing Technology Firm



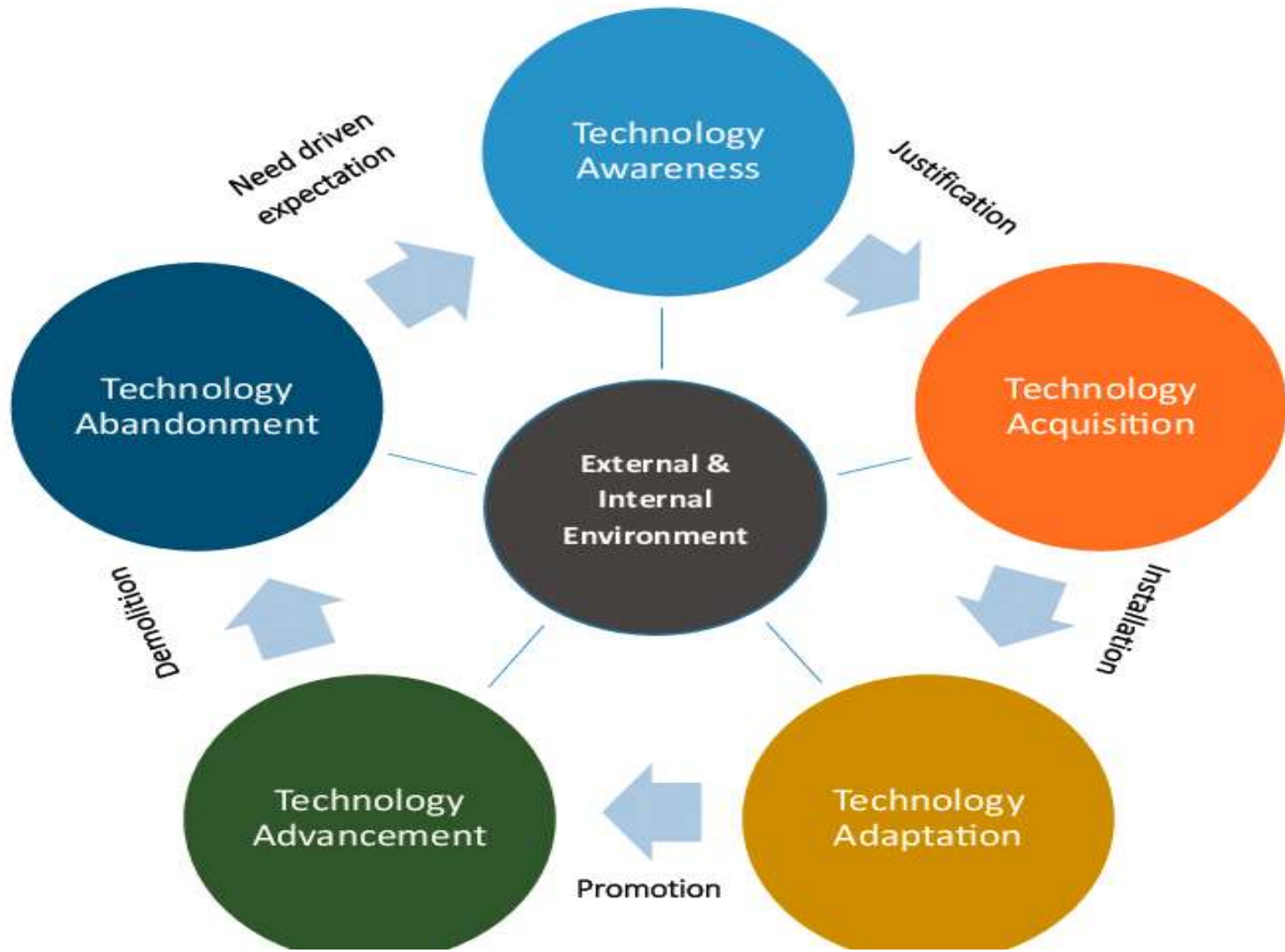


Impact of Technology

Clip slide



Technology Cycle



1. **Awareness phase**:- Company has a formal mechanism to become aware of emerging technologies, from 'think-tank' with engineers & scientist, who research from around the world & put in short internal report form for the benefit of corporate strategic planners & technology policy makers
2. **Acquisition phase**:- In this stage company's technology group, in collaboration with the industrial engineering group would conduct technical feasibility, & economic feasibility studies before justifying & acquiring a new technology.
3. **Adaption phase**:- Virtually every enterprise ends up adapting an acquired technology for its particular needs, if done correctly the transition from acquisition to adaptation becomes much smoother & less expensive. But if not it will only frustrates the people acquiring the technology and will cause major losses.

4. Advancement Phase:- When capital is limited one can not indiscriminately purchase & abandon technologies with scarce money.

5. Abandonment Phase:- It is the last phase but most critical. Bad timing in prematurely abandoning a product could result in lost revenues & on the other hand waiting too long to abandon might result in loss revenues because a customer may find better alternative in competition