

Transfer of Technology(ToT)

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Introduction

- Defⁿ :- Any type of transfer of technology or the information of the technology flows from sender to receiver intentionally or even unintentionally is called the ToT.
- WHY? :-
 - Good source of **Income**;
 - Receiver can apply the tech. to commercial use;
 - Receiver might be using for getting better in own business;
 - **Happy partnership**
 - Better *Human-improvement* & Improvement of overall human knowledge of *Science & Technology*

- Horizontal transfer:

One area to another area

- International
- Regional
- Cross-industry/section
- Inter-firm
- Intra-firm

- Vertical transfer:

applied research centers to research and development departments

Horizontal.1 International

- This type of transfer occurs between countries.
- *Example:* India with America



Horizontal.1 Regional

- From one region of a country to another region
- *Example:* Any type of National tech. invention like Security Surveillance Equipments, Internet Access in India.



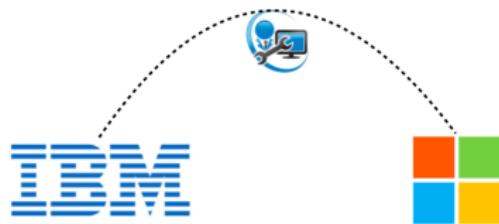
Horizontal.1 Cross Industry/sector

- From one industrial or government sector to another
- *Example:* department of defense to transport



Horizontal.1 Inter-firm

- From one company to another
- *Example:* IBM to Microsoft



Horizontal.1 Intra-firm

- From one company department to another within a company
- *Example:* Design-Art department to Computer department



-means the medium for transfer

- **General**

 ⇒ the normal or public channel

- **Reverse Engg.**

 ⇒ make-out the internal structure using behavior

- **Planned**

 ⇒ planned, secure, & reliable way of tech. transfer

- Unintentional & may proceed without sender's presence
- Available in public domain with little/no restriction
- *Examples:*
 - Education
 - Training
 - Publication
 - Conference
 - Study Missions
 - Exchange of Visit



- Source include reverse/back engineering & emulation
- Host has full knowledge to do this
- No legal violation of IP(intellectual property) rights



- done intentionally, according to planned process
- with the consent of tech. owner
- access permission requires for using the technology
- extremely secure



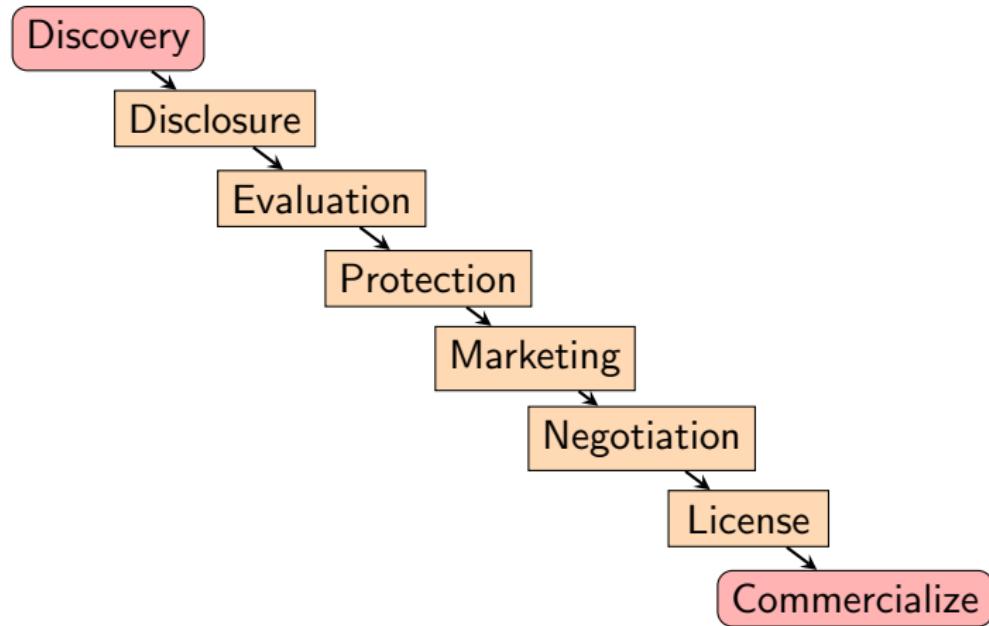
Agreement types

Types of Agreement

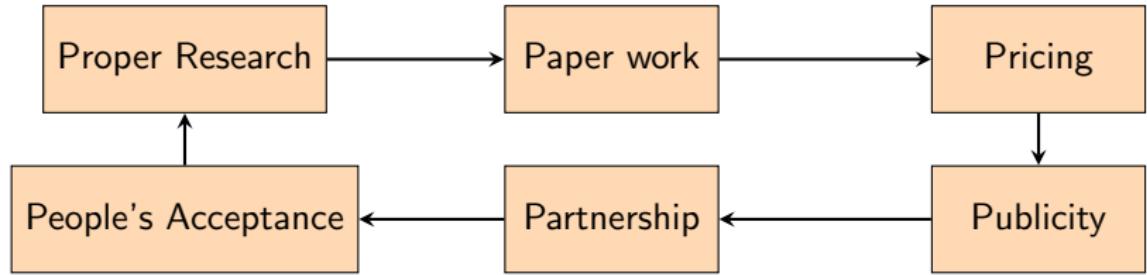
- Licensing
- Franchising
- Joint venture
- Turkey project
- FDI(Foreign Direct Investment)



Process Steps



Contents of ToT



- **Coordinate:** between Tech. Users & Developers or researchers & manufacturers
- **Link:** (Brokers) Cataloging resources related to business enterprises & connecting as entrepreneurship, getting help from tech. developers for new business and companies.
- **Encouragement:** another most important thing is support (by money(asset/invest), developers' Team-effort, Promotion, help from Tech. Giants, etc.).

Team Members

- Technologist
- Representative
 - Production
 - Engineering



Technologist:

- Central person for transfer activities
- performs the initial process activities
 - Feasibility study
 - Tests site compatibility
 - Establishes resource requirements, etc.



Representative:

- Production
 - Reviews process instruction & quality like capacity/capability.
 - Considers any safety implication e.g. solvents, toxic, sanitizing materials
 - Considers impact on local SOP(Standard Operating Procedures).
- Engineering
 - Review preventative maintenance/calibration impact, e.g. sensation, violation of rules, etc.



Advantages of ToT

- Technology is application of Science with the help of Engineering
- Connect all scientific Professionals with Customers/other people
- Problems & Needs make human think about new Inventions
- Helps the Undeveloped & Developing countries to improve & go hand by hand with Developed countries.
- Increases the human development as a whole

Disadvantage of ToT

- takes time
- depends on transport strategy
- Security issues & Reliability
- Requires unnecessary Permissions
- Information Should be Public but Actions should be Restricted by the Men in Power.

List of institutes of ToT in India

- NRDC(National Research & Development Corporation)
- APCTT(Asia Pacific Centre for Transfer of Technology)
- TBSE(Technology Bureau for Small Enterprises)
- FITT(Foundation for Innovation & Technology Transfer)

Case Study: 1 (Regional, e-Waste Management, India)

As we know the most renowned inventions of Indians, like some of them are, invention of ZERO('0'), plants have life, astronomy, water on moon, etc. etc..

This is the technology came to India for to reduce the Pollution for exceeding use of Techno-tools and development in India.

In this case India has planned and planted in many places to collect & recycle the used products in India.



Case Study: 2 (Regional, Apple v/s Windows, America)

- ① Bill Gates & Paul Allen made interpreter for Altair-8800
- ② Steve Jobs & Steve Wozniak made first GUI based computer
- ③ Bill modified Apple OS, & circuits for Business
- ④ After a long business fight, Jobs was fired from Apple
- ⑤ Bill transformed Microsoft into Windows
- ⑥ Jobs came back to Apple with the investment of Bill



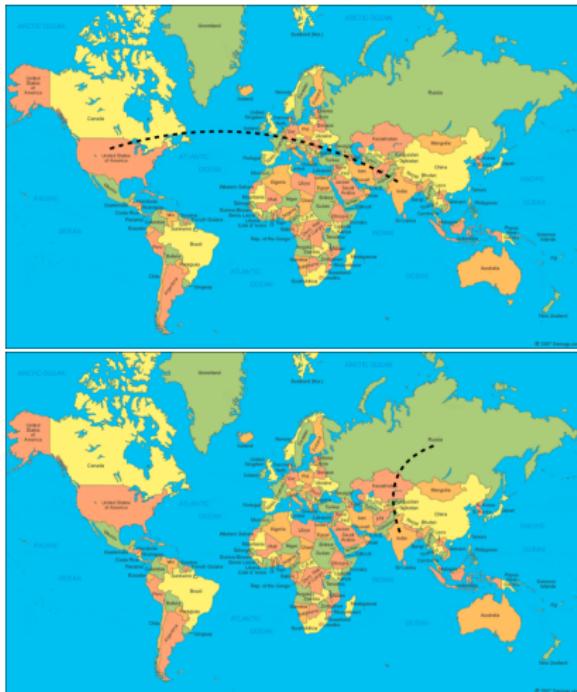
Case study: 3 (International, Defence)

India-America

- American commander has declared to help India with any type of advanced weapons;
- Past decade, defence trade between the two reached \$15 billion.

India-Russia

- India's key defence partner is Russia
- India now is on getting the technology instead of products



Thanks

Happy Learning...Happy Invention...Happy Sharing(ToS+ToT)
Thanks...

