

An Overview of Technology Transfer

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ABSTRACT: *Technology transfer is the shift or flow from one entity to another or from one purpose to another, of the technological information, data, designs, experiments, materials, technologies, software and/or trade secrets. The method of technology transfer is driven by each organization's policies and values. The transfer of technology is a dynamic process involving multiple non-scientific and non-technological influences and various stakeholders. Good or high quality research results are not enough for successful technology transfer; general awareness and willingness both at the level of organizations and individuals, as well as skills and capacity related to specific aspects, such as access to risk finance and intellectual property (IP) management, are also necessary components.*

KEYWORDS: *Knowledge transfer, Technology, Technology Transfer, Young minds.*

INTRODUCTION

Technology transfer is defined as the continuous, frequent, and strategic transmission of information used in research in state-owned technologies, laboratories, universities, and any institution able to create, technology transfer involves a payment and thus the marketing of knowledge is inherent in this process[1]. Access to technology has been a critical tool in the economic development of nations and organizations, regardless of where it has been created, because it facilitates society improvements, generates new demands and meets them. A nation has a comparative advantage based on the transfer of information and technologies. In order to refresh and change their information basis and thereby enhance their productivity, businesses participate in transmission practices[2].

The transfer to the commercial field of the study findings from universities originates in the USA. Universities provide the basic components of a national innovation scheme, have intellectual resources and the expertise needed to innovate and make manufacturing processes and industries competitive[3]. Transferring technologies is, on the one hand, the link between universities and enterprises; universities have access to infrastructure, to new facilities, to science, to information and to current problems in industry. In the other hand, a company may use public services to access highly skilled jobs, research and development without having its own workers[4].

Developed countries are focused on their linking strategies between university-government-industry to build upon knowledge; they invest in research and technology to produce innovation[5]. These organizations, as core elements to improve innovation and capacity to predict and react to problems of the climate, help to foster intellectual and industrial property initiatives. In these countries, universities, industry, and government have developed models of technology transfer to streamline transitions based on their experience. It is necessary therefore to be aware of these models in order to recognize their components[6].

LITERATURE REVIEW

1. *Technology:*

The concept 'technology' has been interpreted and described from many points of view and this has affected research design and outcomes, transference agreements and public policy in general. In previous literatures, however, the word technology was given different meanings. Technology consists of two primary components: 1) a physical component which comprises of items such as products, tooling, equipment, blueprints, techniques, and processes; and 2) Knowledge part comprising administration, communications, engineering, quality management, reliability, professional staff and operating areas[7]. Technology is characterized as 'special knowledge used for practical purposes.' In other words, to create a good or service to address a current or new need, scientific information is applied. Thus, technology is the climax of analytical and physical creativity to improve human competence.

2. *Technology Transfer:*

Technology transfer is the mechanism in which a technology creator provides the technology to a business associate who exploits it. "Tech transfer" relates in the pharmaceutical industry to the protocols of successful advancement from drug research to product development, clinical trials and eventually complete marketing. The term technology transfer can be defined as the process of technology movement between entities[8]. It can be said that the technology transmitted is efficient if the receiver, the transferee, can successfully use and ultimately assimilate the technology. Physical properties, expertise and technological awareness can be used in movement. In certain cases, technology transition can be limited to workers migration and sharing or movement of a certain range of skills. Technology transfers can often use to refer to technical movements from laboratory to industry, from developed countries to developing nations or from one technology to another. In a rather restrictive way, technology transfer is characterized often as the application of knowledge to use, where technology is treated as information[8].

3. *Importance of Technology Transfer:*

The marketing of discovered new innovations is a driving force for economic development and universities have played an important role in fostering revolutionary concepts and developments. Technology transfer may theoretically generate university income, establish research links between academia and industry, and improve regional economic growth and development[9]. Therefore, information and technology growth and transition in any kind of sector has been and will remain essential to progress. In recent years, there is a growing awareness that an appropriate transfer of manufacturing technologies (technology transfer) is important to upgrade drug quality as designed during R&D to be a final product during manufacture as well as assure stable quality transferred for many reasons between contract giver and contract acceptor during manufacture[10].

4. *Reason for Technology Transfer:*

4.1. *Lack of manufacturing capacity:*

The invention creator will only provide small-scale production equipment and wants to partner with a large-scale fabrication company.

4.2. *Lack of resources to launch product commercially:*

The original inventor of technology can conduct early-stage testing only, including animal and toxicology trials, but does not have the resources to use technology across its therapeutic and regulatory stages.

4.3. *Lack of marketing and distribution capability:*

The technology pioneer may have created the technology entirely and also received regulatory approvals and product registrations, but may not have outlets for promotion and delivery.

4.4. Exploitation in a different field of application:

Each partner may only have half the solution, that is, that the manufacturer of the technology may be able to use the technology itself in diagnostic applications and may give a commercial partner the right to use therapeutics.

5. Goals of Technology Transfer:

The purpose of technology transfers is to transfer product and process information between development and production and to achieve product realization within or between manufacturing sites. The framework for output, control strategy and process validation and continuous development is this knowledge.

- Is a valuable step in the developmental life cycle leading to successful commercial manufacturing.
- To take all the gathered knowledge and use it as the basis for the manufacturing control strategy, the approach to process qualification and on-going continuous improvement.
- The transition of the product/process/analytical method knowledge between development and manufacturing sites.
- In the face of the rigors of commercial manufacturing environments, the variability of procedures and parameters is regulated and necessary. Parameters set during production can also be verified and/or modified within a determined design area.

6. Function of Technology Transfer Team:

Coordination-A significant part of technology dissemination is the coordination between technology consumers and production staff, between researchers and producers. Nurture - A crucial element for shifting technologies in a friendly atmosphere for entrepreneurship from science laboratory to new companies. LINK- Cataloging resources related to business enterprises & connecting would be entrepreneurship / researcher and other technology developers to outside group & organization which can help in the process of starting new product, companies etc. such linkage provide referrals for individual business counseling, sources of financing.

CONCLUSION

The proper transfer of technology is necessary in order to increase the design quality to ensure product quality and to ensure the quality of the product is reliable and high. The technology transfer means a constant sharing of information between the two parties to continue commodity output not until the transferring party has taken measures against the transferred party. Technology transfer may be deemed effective if, on predefined parameters negotiated with a transmitting unit or a production unit, a receiving unit may routinely duplicate the transmitted device, procedure, or system.

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