

The Relationship between the Research and Development Process and Technology Transfer in Banking Industry

(Case Study: Ansar Bank)

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Abstract: Technology plays a major role in our world today. Therefore, the decision about selecting the right technology can be a competitive advantage among competitors. Thus, the identification of factors affecting the transfer of technology in every industry can help us. In this regard in Ansar Bank we tried to identify and rank the factors affecting the transfer of technology and its relationship. The right technology can be a significant factor affecting the success or failure of an organization. The selection of the appropriate technology is important that organizations face. Many factors influence the pace of change on the technology. These factors in some cases are internal and external. Internal factors include attention on research, the importance of technology and its relationship with research & development, the risk managers and external factors include economic, political, cultural factors. In this study, according to previous studies, we attempt to extract the factors affecting technology transfer. Then indicators by preparing a questionnaire based on Morgan table put in the hands of experts and filtering them according to our indicators. Then, according to prepared questionnaires, we selected indicators and we rate them. After analyzing data and indicators, we ranked; and at the end, its validity is calculated using Cronbach's alpha.

Keywords: Technology, Research and Development, Technology Transfer.

Introduction

Changes in the external environment and internal firms are so fast, multi-faceted, complex, and comprehensive that firms predict that they cannot survive and grow without proper planning and strategy. In two decades ago, due to market conditions and the lack of competition, many firms could develop in the domestic market, but today, with the market competitiveness and economic conditions prevailing in the world, there is no development; and their development is impossible without a non-reactive reasonable and wise response to changing environmental conditions. The appropriate and wise response to the complex developments set firms put in open social systems, the systems that change and sustainable development are the inseparable part of their nature. In the present era of increasing knowledge and the breadth of its application in solving many problems, the research plays an important role on the development of various industries.

This process can only be won in an international competition which is perceived as an organized unit and the necessary investments to be done on it. R & D unit loses its true meaning without innovation.

Technological innovation means to achieve development that is more important and more efficient and thus more appropriate use of financial resources, or in other words economic growth (Atlas Technology, 1990).

We are living in the age of science. Technology is knowledge for the production of goods and services and improving knowledge of production by the limited resources. Whatever technology is used is the resulting development of knowledge. In the late twentieth century, information age has led to the development of knowledge and has a huge impact on the rate of technological change. Accelerated rate of technological change can have a profound effect on society and on living standards. It is not enough to just produce, but also producing better and cheaper goods and services that would defeat their rivals and go out of the economic field is also important. With regard to the items listed in this study, we attempt to explain the relationship between research and development by transferring technology and creating value in the banking system of the country (Aqaei, 1989).

Review of literature

Continuous economic growth is mainly explained by developments in science and technology and human capital; and research and development (R & D) are also major sources of knowledge and technology developments. Hence most countries to sustain economic growth expand their research and development. According to the OECD, research and development in the sense of constructive activities are borne of a systematic Foundation which aim to increase human knowledge, cultural and utilizes this knowledge in new applications. One of the features of modern economic growth is a significant role that is being played by technological change and sustainable economic growth is the first priority, both in the developed and developing nations. Therefore, for the emergence of high tech industries, industries require advanced technology and rapid changes, high research and development costs and emphasis on product design that include information technology, new materials, biotechnology, electronics and aerospace industries and so that their share in world industrial production is growing at high rates. Twenty-first century has been described as the era of knowledge-based economy; an economy that is based on scientific research and development activities. R & D activity is an organized process of knowledge creation, production, dissemination and application. R & D leads to innovation in scientific technology, scale political and social systems are managed (Haj Fathaliha, 1993).

Based on models of endogenous growth, investment is known in research and development as the main engine of growth. Models acknowledge the economic and institutional factors, explain how technological progress. Endogenous growth models, including models established by Manckioromer and colleagues argue that human capital and knowledge accumulated by education and creating knowledge, and long-term resources. The majority of studies in recent years have focused on economic growth and technological progress that have a prominent role for investment research and development like the study by Driguez-Claire. Since the investment in R & D is one of the basic elements of the advancement of knowledge, increase productivity, and spurring growth; each country will invest sufficient resources in R & D activities to be engaged in research and development activities to achieve optimal growth potential as a result of research and development.

On the other hand, it is important that there is a technology gap between developing countries and developed countries that the gap is a significant part of the large differences in per capita income which separates the rich and the poor economies. An important effect of technology gap can be different in rich and poor countries for investment in R & D and production of knowledge. For example, countries that form the Group of Seven in 1995 had 84 percent of global spending on R & D, and the remaining approximately 190 countries, have done only 16 percent. Thus the member states recorded 92 percent seven patents in the USPTO (Tabatabaeian, 2005). The purpose of this study was to investigate the relationship between process research and development with Ansar Bank in the process of technology transfer.

The meaning of technology and its relationship with business

Technology word composed of two Greek words Techne means skills to and logy means wisdom; literature of technology management, many different definitions have been proposed for it. In a simple definition, technology can be defined as all the knowledge, processes, tools, methods and systems used in making products and services. In other words, technology is practical application of knowledge and tools to meet human needs (Abdolhosseini, 2013).

Although technology is closely related to science, according to a very important point, they are the same but basically in different categories. While the science is knowledge, technology is the ability of the state, of course not

every type of ability, but those abilities that use science to solve a problem or achieve the business goals. For a more clear distinction with the concept of technology and science, we refer to the components of technology.

Zeleny has divided technology into three distinct, yet equally important component (of course, according to him, all three are the same; however, for some technologies may be more important than the other components):

- Hardware: the physical and logical deployment of equipment or machines that are used to perform the necessary tasks.
- Software: Use knowledge of stockpiling hard way to perform the necessary tasks in other words, a guide program hardware.
- Brainware: in fact, the reasons for the use of technology to clear the path and it can be called reason knowledge (Fahim Yahyaei, 1997).

However, other sources divided by the other two parts of the human brain to computer hardware and software organization, researchers have attempted to emphasize on the aspects of tacit knowledge and skills certainly lies in technologies that manage and organize the special characteristics of the car, the man and an element distinguishing humans (Ali Ahmadi, 2000).

Of course technology has provided another definition: A set of information, tools and techniques that are derived from science and practical experience, and in the development, design, production and use of products, processes, systems, and services (Aqaei, 1989).

What is science?

Science is a field of human studies that systematically verifies and classifies the material facts and the nature and behavior of the natural world or the physical and mental life. With this goal that knowledge and understanding prove the new evidence as the general rules Science is created by the natural philosophy and technology has emerged at the heart of science. Science is trying to find reason. Scientific efforts lead to the books and articles that will be published. The growth of science is continuing uninterruptedly. Scientific discoveries are published without delay and national aspects and its implications freely cross the geographical borders; science and scientific concepts are the same all over the world.

Another point is that science is as a means to infuse human mind to solve specific problems and understand various phenomena that occur in the world around us (Fadavi Asqari, 2001).

Technology

As already mentioned, technology has emerged from the heart of science and for the manner of phenomena. The final product is a commodity technology that is sold in the market. Unlike science technology is different in each country due to economic and political empowerment (Kazeminejad Vaqefi, 2005). The technology has numerous definitions, some of which are the following definitions:

In the literature, technology refers generally to its etymology of the word "techno" and "logy": Techno in Random House Dictionary is defined as: The intellect that governs the universe and its evolution. The equivalent in the language to logy word is "recognition", and hence the technology or technological knowledge has been translated in Persian "fan" (Kazeminejad Vaqefi, 2005). Of course, technology is only known as the theory and methods of technical knowledge to convert production reality. Galbraith's view: technology means the systematic application of scientific and other organized knowledge to practical tasks.

Discussion and conclusion

Technology transfer is a very important decision for the future of the organization as well as in determining the amount of business organization. So organizations are looking for technology that is responsive to their needs and expectations lifter customers. The best possible technology should be coordinated with agencies and organizations to also cover requirements. In the meantime, the correct and logical transfer plays an important role due to factors affecting technology because we can have a rational decision-making through correct indicators.

In this study, we attempted to identify Commons efficient and effective transfer of technology we used in Ansar bank. According to the experts and their research points, we conclude that technological factors play an important role in the transfer of appropriate technology for the banking industry. In the meantime, according to research and development activities in technology transfer, effective and efficient management of technology

transfer, market access adequate technology transfer, close cooperation between research centers and industry, technology transfer, the willingness and ability of the transferor and the transferee on transfer of technology, export development policy on technology transfer, good and effective government support of technology transfer and the absorption capacity of recipient countries to develop technology entrepreneurship in technology transfer in the industry, and the time required to transfer technology are the most important factors for the transfer of appropriate technology in the banking industry that should be applied to transfer appropriate technology.

For the transfer of appropriate technology, we should pay attention to indigenous technologies and the localization of technologies and raise funds for the organization and increase the profits of the technology used. A suitable input to output should be considered, and as much as possible, we try to apply the highest rate of efficiency in the transfer of technology. In addition, the technological knowledge plays an important role in the organization.

If an organization decides to achieve a particular technology, it should make it through the transition from the holder organization. What is the next step?

Unfortunately, most domestic companies communicate immediately with the technology holder or even directly involved in the process of negotiating and buying technology after determining the transmission mechanism (sometimes this is done without doing the necessary analysis). This leads to very undesirable complications in transfer processes that after the entire process, the actual access to technology is impossible; and in most cases, this complex process of transferring technology leads to devices and machines from the holder of technology. Even in cases, companies resort to other companies for their technological negotiations. In addition to the exorbitant cost side due to lack of control over the transition process, the primary goals are away. In general, this type of collision that caused by lack of familiarity with the technology transfer mechanisms causes the failure of most of the activities carried out in the country in order to achieve the advanced technology.

Missed part of the process to achieve some kind through the transfer of technology, in addition to prioritization based on the existing conditions of technology transfer is the transfer of technology project management organization.

Although awareness of the management of technology transfer projects is necessary in order to prioritize its criteria but it is not sufficient. Certainly, if the use of information and knowledge are not gained from specific analysis of each criterion, and if all factors affecting the goals of the organization are not well known and are not included in the analysis, prioritizing data lost their effectiveness and disruption will result in the transfer of technology project management.

Conflict of Interest

The authors declare no conflict of interest.

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