

Designing the commercialization model of knowledge-based products in the country's pharmaceutical industry

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Abstract

The purpose of this research is to design a commercialization model for knowledge-based products in the country's pharmaceutical industry. The current research is applicable in terms of its purpose, mixed (qualitative-quantitative) in terms of implementation, type of thematic analysis, and an exploratory research in terms of its nature. The statistical population of the research included 12 experts in the qualitative part by non-probability sampling with multiple strategies (intensity and snowball), and in the quantitative part included 151 employees of knowledge-based companies. The research collection tools are semi-structured interviews and questionnaires. To analyze data through coding, MAXQDA software and SPSS and PLS software were used in the quantitative part. The results showed that the formation of the concept of commercialization indicators of knowledge-based goods in the country's pharmaceutical industry includes 67 concepts in the form of 9 major concepts. During the investigated relationships, the conceptual model of the research has been implemented. The results of the research show that the influence between the components in the quantitative study had a necessary and appropriate level. Conclusion of the commercialization reforms of knowledge-based products in the country's pharmaceutical industry is very important in the economic and social development of countries. By improving commercialization and related reforms, it is possible to achieve added value, sustainable development, and improvement of social competencies.

Keywords:

commercialization, knowledge-based goods, pharmaceutical industry, market intelligence

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Extended Abstract

Introduction

Rapid progress in such different fields of knowledge, in addition to the significant increase in the economic value of companies, also causes the economic and technical growth of society. Thus, the commercialization of knowledge-based goods is described as a vital factor, because it can guarantee the success and survival of an organization. This clearly shows the importance of commercialization in knowledge-based industries, especially the pharmaceutical industry (Amini et al, 2016). Knowledge-based companies refer to those companies that have emerged with large profits and high added value from products and services. Such companies and organizations have established their mission and main basis based on knowledge and benefiting from ideas, creativity, and innovation (Taifeh & Abedi, 2023). The process of commercialization in knowledge-based companies is highly influenced by the level of knowledge of the economic base. With the advancement of knowledge, knowledge-based economies continue to develop with greater dependence on the production, distribution and application of knowledge to production and employment in high-tech industries (Azma et al, 2020). But there are also challenges in the commercialization of knowledge in the pharmaceutical industry. One of the most important challenges is the development of the commercialization process. Most knowledge-based companies face these challenges in achieving the desired commercialization performance (Maghsoudi Ganjeh et al, 2019). The importance of this issue becomes more important, especially in a critical industry such as pharmaceuticals, which is based on intellectual property rights. In fact, innovation is the biggest driving force in the pharmaceutical industry, so attention to innovation and new drug production is essential for the development of this industry (Liu & Lyu, 2020). Therefore, the main research question is: What is the commercialization model of knowledge-based products in the country's pharmaceutical industry?

Theoretical Framework

The importance of commercialization

It is important to pay more attention to the category of commercialization and to choose and design a suitable model and strategy for commercialization because acquiring the ability to transform market-oriented research ideas into documented technical and economic technologies can transform a third world country from a seller of raw materials to an advanced country and seller of technical and economic knowledge; therefore, the commercialization of products based on knowledge and technology is the main priority of the country today to improve the economic cycle (Asadi et al, 2023). Considering the importance of the issue of commercialization and the existence of challenging obstacles in the commercialization process of products and created ideas, it is very necessary to emphasize more on the commercialization process in the industries of our country (Tabatabaian et al, 2018).

The importance of paying attention to commercialization models

Choosing the right commercialization model is essential for achieving financial success and exploitation of intellectual property. For this purpose, in order to succeed, a company must be able to choose and use the appropriate mechanism to implement the commercialization process of its new knowledge and technology (Gbadegeshin, 2017).

Innovation process from conception to commercialization

Commercialization is an important part of the innovation process in which new technologies and innovations are transferred from the development and testing stage to the production stage and widespread commercial supply to the markets. No technology and product can successfully enter the market without passing through this section. Creating platforms for the

commercialization and supply of knowledge and technology, in addition to providing significant economic values for companies, also leads to the economic and technological growth of society (Safarzad et al, 2020).

Characteristics of knowledge-based companies

Knowledge-based companies have unique characteristics compared to other companies and traditional industries; for example, the ratio of active professional forces in these companies to their total employees is higher than in other companies, universities have a stronger role in their management; also, technological changes and attention to the research and development process are more in these companies; their competitive advantage is based on the knowledge base and innovation in technology, which increases the speed in conquering new markets (Ramzanpour Nargesi et al, 2022).

Aghababayi et al, (2023) conducted a research entitled "Identification of factors of commercialization of technological projects in new knowledge-based companies". The findings of the research show that it is important to pay attention to the 5 criteria of technology, skill, knowledge, market, and policy and law for the commercialization of technological projects in new knowledge-based companies.

Asadi et al, (2023) conducted a research entitled "Providing a model for commercializing knowledge-based ideas in companies located in science and technology parks". The findings of this research indicate that with the influence of various factors such as individual and team competence, the nature of innovation and technology, market readiness, the level of technological readiness and supporting factors, science and technology parks and government support: knowledge-based companies are able to Commercialize the ideas based on knowledge. This commercialization leads to sustainable entrepreneurship, product quality improvement, sales promotion and better profitability, and better service to society.

Research methodology

The current research is applicable in terms of its purpose, mixed (qualitative-quantitative) in terms of implementation, type of thematic analysis, and an exploratory research in terms of its nature. The statistical population of the research included 12 experts in the qualitative part by non-probability sampling with multiple strategies (intensity and snowball), and in the quantitative part included 151 employees of knowledge-based companies. The research collection tools are semi-structured interviews and questionnaires.

Research findings

To analyze data through coding, MAXQDA software and SPSS and PLS software were used in the quantitative part. The results showed that the formation of the concept of commercialization indicators of knowledge-based goods in the country's pharmaceutical industry includes 67 concepts in the form of 9 major concepts. During the investigated relationships, the conceptual model of the research has been implemented. The results of the research show that the influence between the components in the quantitative study had a necessary and appropriate level. Conclusion of the commercialization reforms of knowledge-based products in the country's pharmaceutical industry is very important in the economic and social development of countries. By improving commercialization and related reforms, it is possible to achieve added value, sustainable development, and improvement of social competencies.

Conclusion

The current research was conducted with the aim of designing a commercialization model of knowledge-based products in the country's pharmaceutical industry. The results of this

research are in agreement with the results of Aghababayi et al, (2023), Asadi et al, (2023), Stiri & Mehraayin (2022), Amiri & Rezaee (2022), Fakhari (2021), Masama Khosrowshahi & Sultanzadeh (2021), Papi et al., (2021), and Kapoor et al, (2020). Stiri & Mehraayin (2022) showed that the 5 main themes classify the key success factors of knowledge-based companies in 5 levels of individual characteristics, organizational factors, environmental factors, company strategy, and supply and allocation of resources; which interpretative structural modeling has been used to interpret and specify the relationship between factors and specify the role of each variable. Based on the results of the survey, it seems that after the environmental factors, the provision and allocation of appropriate financial resources (the amount and time of allocation) and the appropriate human resources (educated, experienced, skilled, creative and innovative) are more important than other factors. It was also found that individual characteristics and organizational factors have a mutual effect, and the company's strategy has the most influence over other factors. Finally, the best implementation method was determined among the five characteristics of the research to employ managers to achieve success, growth and development of knowledge-based companies.

According to the results of the research, the following suggestions are presented:

The commercialization of knowledge-based products in Iran's pharmaceutical industry can help the development of research and innovation in this industry. It is suggested to conduct research in the field of knowing more about diseases and their treatment methods by producing and supplying innovative drugs. This research can lead to scientific and medical progress in the country and improve treatment methods.