Designing a Knowledge-based Economy Model to Achieve Knowledge-based Development

Karim Hanafi Niri[1] , Robabeh Pourjabali[2] , Mahboube Babaei[3]

Abstract

Purpose: The Purpose of this study is to construct a model that identifies the components of the knowledge-based economy in order to promote its development through insights from experts.

Methodology: This qualitative research employs a thematic analysis approach with a focus on professors, experts, and individuals knowledgeable about the subject. A total of 52 participants were selected using purposeful sampling and data was collected through semi-structured interviews.

Findings: Initially, 1,535 codes were extracted, leading to 353 codes in the subsequent stage, and further refined to 42 secondary codes during the central coding phase. Ultimately, nine main codes were derived in the selective coding stage.

Conclusion: Emphasizing the importance of a knowledge-based economy can enhance productivity, foster economic prosperity, and facilitate the creation and growth of knowledge-based enterprises. Such emphasis can also boost competitiveness, innovation, and success in global markets, ultimately leading to improved standards of living and sustainable development.

Value: This research offers insight into the role of a knowledge-based economy in driving knowledge-based development within the country.

Key Words: Knowledge-based Development, Knowledge-based Economy, Knowledge and Technology Policy-Making, Smart Businesses, Knowledge Markets.

1. PhD in Sociology and Professor at Zanjan University, Zanjan, Iran (Corresponding Author) Hanafiniri96@gmail.com
2. Assistant Professor, Department of Sociology, Zanjan Branch, Islamic Azad University, Zanjan, Iran.
3. Assistant Professor, Department of Sociology, Zanjan Branch, Islamic Azad University, Zanjan, Iran.

Extended Abstract

Introduction: Knowledge is an effective force in economic developments; social; cultural and political. Achieving a knowledge-based economy is possible if the social, political, economic, scientific, and legal frameworks of a country are in the direction of providing the necessary conditions to support and enter the economy in this direction. In the discussion of the growth and development of countries, knowledge is considered a competitive advantage. In this regard, knowledge-based development is an approach in which the application of knowledge and information is of great importance, and the economy, production, employment, and all-round growth are formed based on it, and investment in fields related to knowledge is of interest to developing countries. It has been found.

Purpose:The purpose of this research is to design a model by identifying the components of a knowledge-based economy to achieve knowledge-based development, which was done based on the views of experts.

Methodology: This article is done with a qualitative method and based on the "theme analysis" approach. The research community includes university professors and experts on this research, who were selected using snowball and chain sampling methods. The sample size was determined using saturation or judgmental sampling, and after interviewing 45 people, theoretical saturation was achieved, but to be sure, the interview continued until 52 people. Interview method and structured questionnaire were used to collect data. To measure the validity of the tool, the opinions of experts and journalists were used, and at the same time, the participants were helped in analyzing and interpreting the data. In the present study, retest reliability and intra-subject agreement methods were used to calculate the reliability of the conducted interviews. The amount (percentage) of agreement within the subject of two coders (which should be 60% or more) in the present study was 73%, which indicates its acceptability.

Findings: The data obtained from the interviews with experts on the subject of the research regarding the main research question of identifying the components of the knowledge-based economy to achieve knowledge-based development; With the technique of coding, analysis, and primary concepts of statistics and after extracting sub-themes, in the next stage these themes (sub-themes) are combined and transformed into main concepts or themes in terms of the common concept and the internal relationship of the concepts and transformed into the following model They were divided into nine main themes.
The components of a knowledge-based economy include nine categories, and each of the categories also has sub-components, which are:
- Category 1: Policymaking of knowledge and technology with the following components: 1. Promotion of science and technology; 2. Development of knowledge management; 3. Strengthening the innovation system; 4. commercialization of knowledge; 5. Research and development centers; 6. Development of information centers.
- Category 2. Economic and institutional regime with components: 1. Urban economy; 2. Developmental government; 3. Knowledge-based government; 4. Development of entrepreneurship; 5. Strengthening civil institutions; 6. Smart governance.

- Category 3: Development of education and technical skills with components: 1. Technical skill network; 2. Technical skill training; 3. Promotion of education and literacy; 4. Recruiting specialized workforce; 5. Development of electronic education.
- Category 4: Smart society with components: 1. Information society; knowledge society; 3. Smart people; 4. Smart infrastructure and communications; 5. The learning community.
- Category 5: Smart economy with components: 1. Knowledge economy; 2. Information economy; 3. Digital economy; 4. Learning economy.
- Category 6: Knowledge-based industries with components: 1. Advanced technologies; 2. Smart industries; 3. Knowledge industries; 4. Knowledge-based companies.
- Category 7: Smart businesses with the following components: 1. Network businesses; 2. Virtual businesses; 3. Electronic commerce; 4. improving the business environment;
- Category 8: Knowledge markets with components: 1. Capital markets; 2. knowledge markets; 3. knowledge marketing; 4. Knowledge marketing.
- Category 9: incentive and support system with the following components: 1. network businesses; 2. Virtual businesses; 3. Electronic commerce; 4. improving the business environment.

Conclusion: Knowledge and technology policymaking is one of the main components of a knowledge-based economy, which has key dimensions including: the development of research and development centers, Development of knowledge management, development of science and technology parks, spread of science and technology, commercialization of knowledge and information and applied research results; Strengthening human capital and expertise; Creating a national model of innovation; strengthening the innovation system; The development of national technical and scientific networks and the development of information centers.

The smart economy is another important component of the knowledge-based economy, based on smart networks, innovative networks, and the production of high-level technologies. The indicators of smart economy include creative economy; learning-based economy; the learning economy against the economy based on knowledge and information; digital economy; competitive economy; He mentioned green economy and network economy.

The development of education and technical skills is an essential component in achieving a knowledge-based economy. Education and investment for intellectual capital is a long-term investment without which the stability of the knowledge-based economy will not be possible.

Knowledge-based industries are industries in which a high level of investment is dedicated to invention and innovation. The acquired technologies are highly consumed and the workforce is highly educated.

The movement of society towards intelligence can be effective in achieving a knowledge-based economy. In this society, intelligent people seek civic and social awareness, and political and civil participation reaches its peak. High social capital and social health are visible, and people experience smart life using new information and communication technologies.

The existence of smart businesses and the use of network and internet capacities to establish business in the virtual and electronic space have an influential role in

the development of a knowledge-based economy. In this regard, the need to improve the business environment is extremely necessary.

Value: This research is the first to explain the role of a knowledge-based economy in achieving knowledge-based development in the country.

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