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The Role of Higher Education Policies in Science Production (Case Study; Graduate degrees in university)

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Abstract:

The present study was carried out aimed to investigate the role of higher education policies in the science production in postgraduate education. This study was considered ascausal research in terms of the method used. In the present study, the statistical population of this study includes graduate students of Arak University. Morgan's table was used for sampling and convenience sampling method (also known as availability sampling) was used, and the sample size was 323 people. According to the results, higher education policies can have a positive and significant effect on the science production through structuring higher education, subsidy allocation to graduate education, investment in higher education, building culture for higher education, the applicability of higher education, innovation support).

Keywords: Public Policy, Higher Education, Science Production, Graduate Studies

1. Introduction

Science production is considered as the basis of wisdom and wisdom is known as the basis of ability. Different interpretations, such as "the era of trans-industry", "the age of communication," "the age of science and technology," the "era of globalization," and so on are used to describe the present time. These interpretations are in common in this that science is considered as the basis of the development of countries and is more than ever involved in their fate. In other words, nowadays, science is considered as the driving force, and the most advanced industries can be achieved based on the highest specializations.

Higher education should be considered as the responsibility and economic support of governments in form of public commodity, and a strategic requirement for all educational levels, and a context for research, innovation and creativity. Investment in higher education has so far not been important to create a widespread and diverse knowledge society and to the advancement of research, innovation and creativity (UNESCO, 2009).

Science and knowledge is produced only through research, which is considered as the main task of the university and research centers. Sustainable development¹ is based on knowledge and science, because the science production leads to increase knowledge and this introduction provides a suitable context for technology and, consequently, the generation of employment and wealth, and ultimately enhances comfort, ability and social security.

¹**Sustainable development** is the organizing principle for meeting human development goals while at the same time sustaining the ability of natural systems to provide the natural resources and ecosystem services upon which the economy and society depend. The desired result is a state of society where living conditions and resource use continue to meet human needs without undermining the integrity and stability of the natural system. Sustainable development can be classified as development that meets the needs of the present without compromising the ability of future generations.

Universities have different and important duties such as training of specialists in order to strengthen the foundation of development, cultural development and ... according to the temporal conditions and social, economic and technological needs related to that time. Hence, keeping public culture alive to be able to compete in international arenas is based on the quality of the academic system and the interactions that take place in it. Also, upgrading the value system of the community within its specific temporal and spatial framework depends on the academic system, scientific productions and its dissemination at the macro level of society.

Since educational investment is useful in the long run and ten to fifteen years are needed to train a person who can be useful and effective for a period of fifty years or more for his or her community. The realization of this depends on passing a university course where the individual can achieve acquired specialty and efficiency. On the other hand, university education is considered as the basis for the development and exploitation of potential resources in any society, and plays a key role in economic growth and social development (Doroodi, 2017, 126).

In different countries, the term "higher education" is associated with the accumulation of science, research and culture. The presence and activity of the academic educational institution in a promising society is considered as a significant development in the science extension, fundamental research, and significant changes in various economic, social, political and cultural fields in any developed and developing society. Higher education is considered as the highest and last stage of the educational system, or in other words the head of the training pyramid in each country. In our country, higher education refers to studying in courses after graduation from high school, leading to assistant, bachelor, master and Ph.D. degrees (Madhoushi and Niazi, 2010).

Nowadays, we are facing with the growing demand for higher education. Due to growing demand for higher education, stakeholders require sufficient information to ensure demand-its being axis. In fact, higher education institutions are required to provide clear situation for evaluation by stakeholders and provide them valuable information about their resources, processes, outcomes and outcomes and to report responsibly on how they act (Iton, 2004, 138). Although this explicitly explains the quantitative growth of higher education as the main reason for paying attention to the issues of evaluation and transparency and accountability, but the issue of value added also considered reasonable reasons for allocating resources to higher education to higher education implicitly as the requirements of attention to evaluation (Hatami et al., 2011, 2).

The higher education system of the country is formed as an organization aimed to provide needed contexts for the optimal implementation of all the programs and tasks related to higher education and increasing the efficiency of higher education. According to the 20-year Perspective of the country, the following goals are considered for higher education: excellence and progress of the country in the field of science and technology and international relations by promoting research and access to the knowledge boundaries and deepening of religious values, the development of higher education in the country by maintaining quality and based on justice for public access, training of specialist forces for achieving scientific and executive responsibilities of the country and strengthening the relationship between university and industry and super Perspective, support and guidance in universities and scientific policies (Abtahi and Torabian, 2011, 5).

Nowadays, perhaps you can claim that science plays the most important role in promoting human society; the contemporary world is composed of science and thought, and with any means other than information can't be lived in the world of knowledge and information (Gharavi Naeini et al., 2012, 4).

In other words, science and its production are considered as the basis of today's civilization, and it continues its vital process in relation to other realities of society. Nowadays, all developed or developing countries pay attention to science and technology as the main focus of development activities in order to maintain or create the foundations for development and improve their competitive power with other countries (Mahmudzadeh, 2011, 2).

Hence, the boundary between advanced and backward societies depends to a large extent on the amount of their scientific productions in the world (Fazlolahi and Maleki Tavana, 2011, 1112). In fact, the science and knowledge production is considered as the basis of wisdom, and wisdom is the basis of ability. If in the past, power was measured by force, nowadays wisdom is considered as the power criterion and the one with more wisdom is more powerful. To the extent that the experts believe that only the knowledge-based development and scientism is considered as a sustainable development (Gozargar and Alizadeh, 2011).

The high scientific power of a country plays an important role in the pride of its people, and such people do their best efforts to grow their place. It can be concluded that science has the power of unifying people and maintaining independence in a country. In order to convert science to a value in society, public culture must consider science as a tool for solving problems and scientific management as the best tool to solve those problems. In fact, the science plays an important role in the present and the future of the country. If science is developed and effective, access to social justice, liberty, competent management and meritocracy and human and social rights are provided as the main goals (Fadlollah and MalekiTavana, 2011).

2. Review of theoretical literature

Nowadays, the term "science production" has achieved a special place in the literature of the country, so that the movement for the science production and the software movement have attracted much attention of many policy makers and scientific planners in the country. In scientometric evaluations, the degree of participation in the production of science, innovation, technology and, in general, participation in the development of world science is considered as the most important criterion for determining the scientific status and ranking of countries. The subject of science production was first introduced at Tehran University in 1987 but was not attracted much attention at that time, and only its basis was formed. In 1993, this issue was introduced and defined more seriously. In this year, the University of Tehran announced that authors whose articles in international journals published by reputable indexing agencies, such as the ISI will receive significant prizes, and it was the first step for serious action in the field of science production. Since 2000, science production has been introduced in the research field of the Ministry of Science, Research and Technology, and it has been announced that significant amounts are allocated to each article published in ISI. In recent years, having credible international articles has become a prerequisite for recruiting faculty members (Shafizadeh, 2009, p. 51).

On the other hand, the slogan "Scientific development; the condition for survival" was introduced in 2001 by the national scientific community at the national level. Then, the structural changes project of the Ministry of Science was developed and then the fourth development plan of the country was implemented with the "knowledge-based development" approach aimed at implementing this slogan.

Also, the 20-year perspective document promoted the issue of science production with introducing the slogan of converting to the "first power of the South-West Asia Region in the fields of scientific and economical" to the level of a national aspiration (ibid., P. 52).

Science production is considered as the most reasonable and reliable index to measure the scientific rank and position of countries. The number of scientific articles published in prestigious international journals is considered as one of the most important criteria for science production in order to develop by very precise and clear calculations without any manipulation. In addition, scientific standardization, and in particular the production of reputable scientific journals and indexing them at international institutions, is of utmost importance because the science production is not limited to basic sciences and covers all scientific branches, including the humanities. In the following, different definitions and views on the science production in order to further clarify its aspects:

- ❖ Science production means an important theory, method, or achievement which introduces global issues and be published in a reputable international publication after specific judgment, and indexed in science production institutions as ISI and be available to others (Mousavi, 2003, 3).
- ❖ Science production refers to knowledge that has not been existed but created, thought and opinion that has not existed but has been presented and accepted by scholars. This issue is proven after obtaining approval and documenting by a scientific and specialized organization. According to this definition, any copying, assembling, and imitation of parts are not considered as science production.
- ❖ Science production refers to the process of content compilation and article compilation and achieving a new and unknown concept (Sobouti, 2005).
- ❖ Science production can be defined as a theory for detailed understanding of phenomena aimed to solve social problems. Science production in each scientific field begins from a problem (Zaker-Salehi, 2003).
- ❖ Science production refers to longitudinal motion in line with expanding the boundaries of human knowledge and moves always forward.
- ❖ Science production is a regular activity, which results in promoting human knowledge, and a scientific theory is obtained as a result of innovation by answering the questions raised in the research (Heydari and Heidari, 2005, 120).

- ❖ Science production refers to creating and introducing something that has not been raised so far. Therefore, when scientists introduce a new theory in dealing with phenomena, science has actually been produced (Shariatmadari, 2005, 9).
- ❖ Science production is the last and highest stage in science, science production means the theorization, the theory that ends in creation (Mahdavi, 2005, 17).

In general, any attempt to identify the unknowns of the world is known as attempt to produce science. Produced science is valuable when not to be forgotten after production, but also it must be provided to interested people for evaluation and criticized by experts, in addition to using it by various users. Also, the supply of produced science will prevent repetition and repeating by other endeavors in the world of science, and more importantly, the basis for further scientific searches. According to the characteristics of science (acquisition, transfer and application), it can be concluded that science is produced through research and the transfer of its findings, and then after the supply will help the needs of society.

Therefore, science is produced when this science is most used to solve the problems of communities. Science production is the same as the production of the product; if all efforts are made to produce the best product, but only to remain on the tree and not to be used, it will surely be destroyed.

In Iran, science production faces major challenge in both software and hardware fields. The most important of these challenges can be summarized as follows: scientific development equivalent to the publication of the paper (www.korsi.ir), weakness in the system and academic activities (Shafizadeh, 2009, 70), lack of willingness to do teamwork, non-allocation of enough credits (MousaviMovahedi, KianiBakhtiari, and Khan Chamani, 2006, 28), the gap between production and practice, psychological weakness and lack of internal motivations (Shafizadeh, 2009, 73). Also, another fundamental problem is the cultural problem that our country has faced it for many years and its results are still visible. Some of these problems include movement from empiricism to rationalism, the structural weakness of the educational system, the low attitude toward religious aspirations and the implicit penetration of Western culture (Ghasemizadeh, 2009, 79).

There are many problems in relation to science production in Iran, which part of these is due to the structure of higher education and its related mechanisms. Some of the most important ones are the lack of coordination, inter-parts and intra-parts collaboration and cooperation, in line with scientific and cultural goals, the structural weakness of the educational system and higher education in meeting the real needs of the country and lack of proper preparedness according to technological changes, the involvement of elites and owners of thought with livelihood problems and lack of facilities and amenities, ignoring the respect principles and the spirit of gratitude from its experts (SadeghiReshad, 2007; Ghasemizadeh, 2009), poor attitude toward religious aspirations and the implicit penetration of the culture of imitation, irreducibility, consumerism, and western culture, the passion for conducting individual studies, bureaucracy and building obstacles in attracting and using the country's scientific elites, the pursuit of cultivation and neglect of attention to the scientific spirit and the search for the main orientation of the universities, insufficient access to international sources and journals, the weakness of the culture of "Consumption" and "work" and "self-control" in many sectors of society, lack of attention to the establishment of scientific management in different departments of the country's administration (Ghasemizadeh, 2007, 73).

On the other hand, the factors affecting the science and technology production must be identified and many efforts must be done to overcome its barriers. Establishing and strengthening the scientific-based culture in society, human resources development as a pillar, graduate and postgraduate degrees development, providing scientific resources, journals, books, scientific databases for achieving the background of research, the development of workshops and laboratories, quantitative and qualitative development of research of domestic journals and attempts to internationalize them in such a way that, in addition to the ability to publish articles of domestic researchers, they also receive articles from foreign researchers; also having scientific standards and specifying the minimum expectations of each individual according to their positions, and, finally, wise management, scientific policy making and correct monitoring can be effective in the science production, the absence of any of these factors can prevent the science production (ZolfiGol, 2008).

According to the results of the research background review, although similar studies were not obtained, but it was concluded that several studies have focused on the issue of science production and its related problems.

Nowroozi et al. (2016), during their study entitled "Investigating the barriers of science production from the perspective of faculty members of ShahidBeheshti University", concluded that faculty members believe that the cultural-social barriers, communication barriers, educational barriers and individual barriers at high levels are effective on science production and they are more important than others, among which the following obstacles are considered as the most important items related to the mentioned obstacles: slogans in the attraction and maintenance of elites, the lack of coherent and organized links between universities and research centers; education based on the transfer of knowledge rather than promoting creativity, innovation and entrepreneurship; overcoming quantitative view and insufficient attention to the quality of research activities.

In 2016, Bagheri et al. during their study entitled "An Analysis of Structural and Behavioral Factors Affecting the Promotion of the Culture of Science Production in Universities of the Country; Case Study: Shiraz University", concluded that 13 factors affecting the promotion of the culture of science production in two categories of structural (creating coordination between different scientific and research sections of universities, continuous improvement of educational contents, avoidance of apolitism and managers' instability, targeted planning on promoting the culture of science, continuous communication between educational and research centers in and out of the country, attention to the quality and applicability of studies in solving the problems of society, the development and implementation of an integrated talent management system in the higher education system, providing and developing research facilities and behavioral) (creating the right culture of critique and criticism, creating a demand-related culture in the university, promoting free-thinking in the university, aligning education and research, and observing educational and research standards). According to the results, universities must pay attention to structural and behavioral factors in order to promote the culture of science production and try to implement them.

In 2011, Hatami et al. during their study entitled "Structuring Challenge for Quality Monitoring and Evaluation in Iran's Higher Education", concluded that evaluation and accountability in order to achieve the goals and excellence of the performance of higher education systems has become into the core issue of higher education field, and it can be acknowledged that all relevant stakeholders in the higher education system emphasize the use of evaluation mechanisms, but the goals and procedures of evaluation are considered as the important point in this regard. In line with the importance of evaluation and improving the quality of higher education, the present study was carried out aimed to review the evaluation background in the higher education system of Iran and, consider international experiences in this field, and its principles and characteristics, and investigate the evaluation approaches and measures done and provide an analysis of the status quo. Also, given that the establishment of quality assurance network structures in higher education has attracted much attention of researchers in recent years, and since the higher education system of Iran is composed of distinct sub-systems, the network structure is emphasized in drawing most favorable conditions for evaluation structure and quality assurance in Iran's higher education.

In 2011, Abtahi and Torabian during their study entitled "Investigating the Realization of Higher Education Objectives Based on the 20 Years Perspective Document by (Analysis of Hierarchy Process) AHP Approach", concluded that the higher education system of the country is formed as a necessary organization aimed to provide the implementation of all programs and performing the duties of higher education and increasing higher efficiency of the higher education system. According to 20-year perspective of this country, the following goals are considered for higher education: excellence and progress of the country in the field of science and technology and international relations by promoting research and access to knowledge boundaries and deepening religious values, expansion of higher education in the country by maintaining quality and on the basis of justice for universal access, training of specialist personnel for the achievement of scientific and executive responsibilities of the country and strengthening the relationship between university and industry, and super perspective, support and guidance in universities and scientific policy making for higher education. In the present study, the higher education system of the country is first introduced and then the Hierarchical Analytical Model (AHP) is addressed for higher education and finally the factors and criteria affecting its goals.

In 2010, Madhoushi and Niyazi during their study entitled "Investigating and explaining the status of Iran's higher education in the world", investigated and explained the status of higher education in Iran compared to other countries in the world. In this regard, the status of higher education in Iran and 31 countries in different dimensions was analyzed using the UNESCO database.

Excel software was used to do this. According to the results, Iran's higher education status is relatively unfavorable compared with the advanced countries and is fairly equal and higher compared to the developing countries and the Middle East countries.

In 2015, Mohammad Sa'd et al. in their study entitled "The Role of Higher Education in National Innovation and Knowledge Performance", investigated the role of the higher education system in the production of national innovation. These researchers emphasized the institutional diversity of higher education system and its impact on national innovation systems. For this purpose, four key elements of higher education size, investment in higher education, the payment of subsidies payment for higher education, and the relative support of higher education activities and their relationship with national innovation performance have been investigated. According to the results, there is evidence for higher education policy makers that they have emphasized increasing access to investment in higher education and reducing subsidies to it. The factors related to the subject of the research can be extracted according to figure (1) after reviewing theoretical literature. Part of the factors is extracted from Bagheri et al. in 2016 and part of the components is extracted based on the study conducted by Mohammad Sa'd.

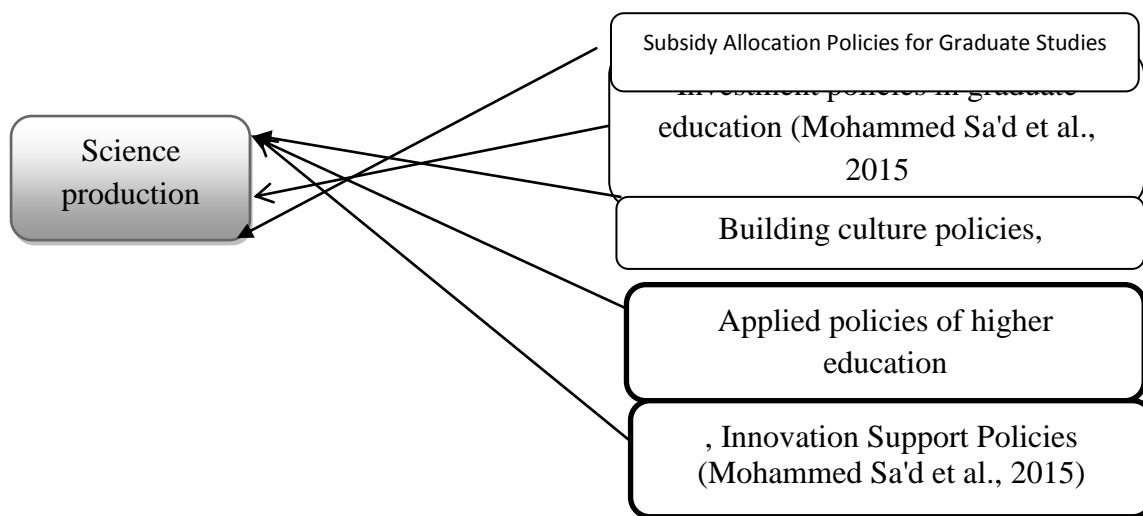


Fig. 1 Conceptual model of research (Bagheri et al., 2016 and Mohammad Sa'd, 2015)

As shown in Fig. 1, there are a main hypothesis and six sub-hypotheses for this study, including:

The main hypothesis: higher education policies have a positive and significant effect on the science production.

Sub-hypotheses:

1. Structuring higher education policies have a positive and significant effect on the science production.
2. Subsidy allocation for graduate education policies have a positive and significant effect on the science production.
3. Investment in graduate education policies have a positive and significant effect on the science production.
4. Building culture for higher education policies have a positive and significant effect on the science production.
5. Applied higher education policies have a positive and significant effect on the science production.
6. Innovation Support Policies have a positive and significant effect on the science production.

3. Research method

The present study is considered as causal research in terms of the method used, because it uses the statistical technique of structural equations in order to investigate the causal relationship between variables. But this study is considered as an applied research in terms of purpose, because it uses theories and some behavioral and managerial sciences and statistics about the statistical society to achieve results for those organizations and institutions that are considered as members of the statistical community and the results are useful and can be used for these organizations.

In the present study, the field method has been used to collect information about the research hypotheses test. Also, five-point Likert scale questionnaire is used to measure indicators, which the method of scoring the scores of the questionnaire is as follows:

1. I totally disagree
2. I disagree
3. I have no idea
4. I agree
5. I fully agree

A logical method, content branch, was used to investigate the validity and reliability of the questionnaire. In this case, the quantity and quality of the questions are investigated from the perspective of professors. In this regard, the supervisor view has been used in order to investigate the validity of the research questionnaire, in order to achieve the content validity. Also, it has tried to evaluate and analyze the questionnaire using expert opinions in the subject area. Finally, a final questionnaire was developed and distributed on a wider scale after applying the opinion of the professors and correcting the questionnaire. Also, Cronbach's alpha was used to measure the reliability of the questionnaire, and after distributing a sample of 30, and the use of SPSS software, the value of 0.763 was obtained, which, compared with the 0.70, shows that the questionnaire has sufficient reliability.

In this study, the statistical population includes post-graduate students of Arak University. During the present study, the number of master students was 1,625; the number of PhD students was 266 and the total number of graduate students was 1891. Since the survey of the entire statistical community was not possible due to its dispersion and scope, a sample of the community was chosen. Using a Morgan table, a sample of 350 students was selected, and convenience sampling method was used, finally 323 questionnaires were completed and collected.

Given that in the present study, the researchers has tried to investigate the effect of independent variables on the dependent variable and the method used for this study was casual, the collected data were analyzed using regression and variance analysis.

4. Results

According to the demographic analysis of the collected data, frequency distribution by gender, age, and educational level is shown in Table (1).

Table 1: Frequency Distribution by student's gender, age, and educational level

| No | Gender | Frequency | Frequency percentage |
|-------|------------------|-----------|----------------------|
| 1 | Male | 131 | 41 |
| 2 | Female | 192 | 59 |
| Total | | 323 | 100% |
| No | Age range | Frequency | Frequency% |
| 1 | 22-30 Year | 75 | 23 |
| 2 | 31-38 Year | 126 | 39 |
| 3 | 39-46 Year | 70 | 21 |
| 4 | 47-54 Year | 41 | 13 |
| 5 | 55 Year And More | 11 | 4 |
| Total | | 323 | 100 |
| No | Academic level | Frequency | Frequency% |
| 1 | Masters | 300 | 92 |
| 2 | Doctorate | 23 | 8 |

In order to use the regression test, the possibility to use regression model was first investigated statistically. The normality of collected data was tested using Kolmogorov-Smirnov test (KS), and the results are presented in Table (2).

Table 2: Kolomogrove- - Smirnoff test (KS)

| Number | average | Standard deviation | Kolomogrove- - Smirnov | Sig |
|--------|---------|--------------------|------------------------|-------|
| 323 | 3.0717 | 0.790 | 1.340 | 0.055 |

According to Table 2, the significance level is greater than 0.05, therefore the statistical assumption of the dependent variable is normal, is accepted.

One of the other assumptions considered in the regression is that the errors are independent of each other (the difference between the actual values and the predicted values by the regression equation). If the independence assumption is rejected and there are correlation between errors, there is no possibility of using regression. In order to investigate the independence of the errors from each other, the Durbin -Watson test was used. The value of statistics in this test is in range 0 and 4. The value of this test is 2.252 which is in the above range and therefore there is no correlation between the errors (Table 3).

Table 3: Independence test of errors using the Durbin - Watson test

| Durbin - Watson | Standard error | Adjustment coefficient of determination | Coefficient of determination | Multiple correlation coefficient | Model |
|-----------------|----------------|---|------------------------------|----------------------------------|-------|
| 2.125 | 0.522 | 0.562 | 0.567 | 0.753 | 1 |

According to the analysis of the collected data, the role of six independent variables are explained in the form of a regression of a variable, and described in Table (4). These variables include: higher education structuring policies, subsidy allocation to graduate policies, investment in graduate policies, innovation support policies, Applicable higher education policies, and the policies of culture-building higher education in the science production (dependent variable).

Table 4: Test results of hypotheses 1 to 6 by independent variables

| Hypothesis 1 | Not standardized coefficients of determination | | Standardized coefficients | Statistics (t) | The significance level |
|--------------------------------------|--|-----------|---------------------------|------------------|------------------------|
| | B | Std.Error | | | |
| Constant value | 1.727 | 0.170 | | 10.182 | 0.000 |
| Structuring higher Education | 0.377 | 0.054 | 0.363 | 6.972 | 0.000 |
| Hypothesis 2 | Not standardized coefficients | | Standardized coefficients | Statistics (t) | The significance level |
| | B | Std.Error | | | |
| Constant value | 1.742 | 0.143 | | 12.141 | 0.000 |
| Allocation of Subsidy To Graduate | 0.379 | 0.046 | 0.416 | 8.203 | 0.000 |
| Hypothesis 3 | Not standardized coefficients | | Standardized coefficients | Statistics (t) | The significance level |
| | B | Std.Error | | | |
| Constant value | 2.059 | 0.134 | | 15.383 | 0.000 |
| Investment in Graduate | 0.308 | 0.048 | 0.336 | 6.395 | 0.000 |
| Hypothesis 4 | Not standardized coefficients | | Standardized coefficients | Statistics (t) | The significance level |
| | B | Std.Error | | | |
| Constant value | 2.304 | 0.117 | | 19.696 | 0.000 |
| Building Culture in higher education | 0.222 | 0.043 | 0.279 | 5.208 | 0.000 |
| Hypothesis 5 | Not standardized coefficients | | Standardized coefficients | Statistics (t) | The significance level |
| | B | Std.Error | | | |
| Constant value | 1.265 | 0.108 | | 11.657 | 0.000 |
| Applied higher education | 0.591 | 0.038 | 0.654 | 15.499 | 0.000 |
| Model | Not standardized coefficients | | Standardized coefficients | Statistics (t) | The significance level |
| | B | Std.Error | | | |
| Constant value | 2.035 | 0.123 | | 16.541 | 0.000 |
| InnovationSupport | 0.2999 | 0.041 | 0.373 | 7.202 | 0.000 |

In table (4), in column B, beta is presented by the constant value and independent variable coefficient, respectively. The table of coefficients consists of two groups of standardized beta and not standardized beta coefficients. In not standardized beta coefficients, the scale of the variables are not the same if the standardized beta coefficients of the variables scale are identical and it is possible to compare variables. Therefore, the standardized coefficients are used to compare the effect of the independent variable on the dependent variable,

Now, if α and β are the constant and gradient of the regression line of community, then the hypothesis test for these two can be written as follows:

H0: $\beta = 0$

H1: $\beta \neq 0$

According to the significant level for the coefficient of regression of the scientific production variable (sig = 0.000 < 0.05), H0, the value of this coefficient is zero, will be rejected. As a result, it can be concluded that for one increase in the independent variable, the science production increases as the coefficient obtained for that independent variable (due to the positive regression coefficient), and given that the regression coefficient will be significant, therefore, with a 95% confidence level, it can be concluded that the hypothesis of the researcher on the role of each of the independent variables in the science production has been confirmed. If all the variables are entered in the regimen model simultaneously, the coefficient of playing role of independent variables in the science production will be described in Table (5).

Table 5: Regression coefficients of playing role play of independent variables in science productions simultaneously

| Model | Not standardized coefficients | | Standardized coefficient | Statistics (t) | The significance level |
|--------------------------------|-------------------------------|------------|--------------------------|------------------|------------------------|
| | B | Std. Error | | | |
| Constant value | 1.013 | 0.163 | | 6.230 | 0.000 |
| Structuring | 0.663 | 0.061 | 0.489 | 11.725 | 0.000 |
| Subsidy Allocation To Graduate | 0.625 | 0.067 | 0.418 | 3.205 | 0.000 |
| Investment in Graduate | 0.712 | 0.106 | 0.309 | 4.669 | 0.000 |
| Building Culture | 0.559 | 0.065 | 0.406 | 7.013 | 0.000 |
| Applied Higher Education | 0.567 | 0.098 | 0.602 | 5.067 | 0.000 |
| Innovation Support | 0.713 | 0.032 | 0.394 | 7.019 | 0.000 |

According to the regression model of table (5), this model will be described as follows:

Science production = 1.013 + 0.489 Structuring + 0.418 Subsidy allocation + 0.309 Investment + 0.406 Building Culture + 0.602 Applicability + 0.394 Innovation support

As shown, applied policies of graduate have played the greatest role in the science production, and the least of these are policies related to investment in higher education.

5. Conclusion

One of the factors affecting the science production is structuring higher education. According to the results of comparative studies of higher education, universities are successful which have a university life cycle system, the planning and development system, the maintenance and evaluation system, and the system of production and distribution. This system considers the role of evaluation and validation as a key factor and introduces it as the factor of reviving university life.

In 2014, Sa'd et al. in their study emphasize the effect of structuring higher education on the science production, and believe that structuring higher education has a positive effect on science production; therefore, it can be said that the result of this study is consistent with that research.

The subsidies allocation to graduate education has a positive and significant effect on the science production. Targeting government education budgets in Iran requires an increase in the state budget in the field of quantitative and qualitative development of general education (elementary and secondary) and a gradual reduction of the state budget in the field of higher education. When subsidy is allocated to students who are science-seeker, it increases their motivation for studying. Another factor affecting science production is investment in graduate education. In general speaking, a community develops economically when it leads to a significant changes in scientific, technical and skill knowledge.

One of the most important factors affecting creating this development is governing the scientific spirit on society and the use of the society's power to strengthen human capital and focus on education system and emphasis on the quality and adaptability of the educational system to the needs of development.

Building culture of higher education is another factor affecting the science production. Higher education is the highest educational level in each country. Education at high levels leads to improve the social personality of the individuals and introduces them with a richer culture, human liberties and more educated, and creates a context for beneficial cultural and social changes at the community level, and this culture and education is returned to schoolthrough graduates. Building culture is necessary to ensure the quality of higher education and it is necessary to pay more attention to the monitoring and evaluation of research centers and science and technology parks. Therefore, its building culturein higher education is necessary for thescience production.

One of the main concerns in all countries is to produce the applied sciences. Macro policies of science and technologycommunicated by the Supreme Leader and the country's comprehensive scientific map have also emphasized the transformation of science into wealth and power by preserving Islamic values. Higher education plays an important role in providing various economic, cultural and political needs of the community. One of its important missions is to establish relationship with society and meet its needs. Unfortunately, despite the importance of experience and the necessity of applied graduate education, the performance of practical units in the academic system is weak.

Many factors such as the lack of qualifications in higher education outcomes to meet the needs of society and the inefficiency of universities have ledcustodians of higher educators in many countries, such as Iran, authorize the necessary authorities to modify the program to universities using decentralization policies. Individuals study in fields that do not havespecific performance and are unemployed or enter unrelated career after graduating. Therefore, another factor affecting thescience production is its applicability.Innovation often implies the creation of new ideas or products that need creative thinking, it is an aspect which planning and direction of scientific policymakers in universities is necessary to strength it. In today's world where the growth and spread of science and technology are considered as the key elements of advancement and development in all cultural, scientific, economic and socialaspects and educational and research institutions play an important role. The role of universities and higher education centers has been confirmed in the 20-year perspective document of the country. The scientific development is the main task of the university. Sustainable and comprehensive development is realized in the responsive and efficient university and educational system. Thus, the main task of higher education is to support innovation to be able effective in science production.

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