

Comparative Qualitative Analysis Influence Factors on Science Production in Macro Level

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Introduction

we are currently witnessing that, in terms of science production, the gap between the North and the South countries is still remaining despite plenty and diverse higher education institutions and their worldwide development across the world, and the science has not appropriately developed in all countries in parallel with the proliferation of actors in the field of science. In other words, many of the studied countries have completed the popularity and democratization stage in higher education, though only a few were able to achieve sustainable production of science alongside accessing higher education. The author in the present study sought to find the conditions needed by a society to achieve academic development in parallel to higher education.

Materials and methods

In terms of approach, the present study used a fuzzy logic approach to adopt case-oriented comparative approach. Contrary to the quantitative method which is variable-oriented, the present study was case-oriented, in which the causal relationships of the studied cases were based on the set relations rather than on the co-change among variables. This is a cross-sectional study conducted among 108 countries, which includes the data during 1995-2010.

Discussion of Results & Conclusion

The results obtained indicate that in many countries the plurality of scientific activists has not yielded scientific development, which can clearly be seen in the countries where despite the above 80% access to higher education, people suffer the scientific efficiency crisis. This fact suggests that the plurality of scientific activists is solely a condition necessary for scientific development and in order to realize scientific development, it must be combined with other factors in order to lay the groundwork for the realization of scientific development. The results also indicated that the combination of variables lead to sufficient conditions for the occurrence of the desired event (scientific development). The plurality of scientific actor as a prerequisite for the scientific development is in combination with dynamic and productive economics, economic and cultural globalization, and competitiveness which lead to scientific development. In the meantime, having a dynamic economy was the only condition that appeared in all of causal routes,

such that no case was found in the fuzzy truth table, where in the absence of a dynamic economy, the plurality of scientific actors would lead to scientific development. Therefore, the sum of these conditions in the absence of dynamic economics cannot cause configurational causality for the occurrence of the desired event (scientific development). The important thing is the combination of variables and the creation of sufficient causal combinations that lead to the occurrence of the desired event (scientific development). It can be concluded that in the light of strong interaction between the internal and external structure that paves the way for the scientific development along with the development of higher education.

Exemplary cases for this claim are the countries participating in the research sample. Among the 108 countries studied, only 18 countries were among the countries in which the development of access to higher education has led to an increase in scientific production. This is because in these countries, the economy is dynamic and production-based, and while merging in the global system in various dimensions, enjoyed high competitiveness in the international arena. In the rest of the countries, namely, Iran, first, the development of access to higher education is not proportional to the demand section of the economy, i.e. meeting the needs of one sector was not well addressed by the other sector, indicating that, first, the economy was not dynamic and based on production, and second, the volume and intensity of relations were limited in the global system. Consequently, it had a low

economic competitiveness potential in the global arena. That is why the development of higher education was not accompanied by increased scientific production. Therefore, it can be concluded that the policies for the development of access to higher education should be designed in line with economic dynamism, symmetrical communication and integration in the global system in the economic, cultural and social dimensions and the promotion of competitive power in the economic arena.

Keywords: Scientific Development, Internal and External Structure, Analysis of Comparative Qualitative, Fuzzy Approach.

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