

On The Way of Sustainable Development: The Role of Higher Educational Institutions

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Abstract: The present research is an attempt to yield the collaborative thinking in higher education. How higher educational institutions can create a synergy was examined from the sustainable development perspective. Therefore, various cooperation and partnerships between educational institutions and others were discussed in detail. The study claimed that interdisciplinary research endeavors, diversifying research teams, integrating scientific developments, and having a balance between theory and practice are crucial steps to promote sustainable development and to provide invaluable benefits to real-world applications.

Introduction

Today, people access information easily from all over the world, and information flows from one continent to another within seconds. Thus, scholars and researchers can combine their endeavors without being physically together. One of the well-known statements asserts that sharing enriches the value of knowledge. This point of view sheds a light to the concept of sustainable development which is defined as efforts of human being to increase the life quality while preserving the environment and resources for future generations. In other words, collaborative research efforts and knowledge sharing promote sustainable development.

The present research investigates how higher educational institutions can take an active role in sustainable development. Different partnership opportunities have been evaluated with a case study from Turkey within the scope of this research.

Sustainable Development and Higher Education

Sustainable development, stemming from the environmental and conservation movement of 1970's, is one of the popular research topics in the literature. As defined in the Brundtland Commission Report of 1987, the concept of sustainable development states that we must "meet the needs for the present without compromising the ability of future generations to meet their own needs". In other words, people consider future generations when they make decisions about how to use the Earth's resources such as forests, water, and minerals.

It is clear that education plays a crucial role in order to achieve the objectives of sustainable development. In particular, higher educational institutions can increase the public awareness and propose alternative solutions through interdisciplinary research endeavors, partnerships among national and/or international educational institutions, and cooperation between universities and business organizations. The analogy of the cartoon character, Transformers, can be a good depiction to understand the power of collaboration. The giant robot becomes stronger and saves the world from aliens or enemies when all the parts integrate and move in harmony. Taking the same logic into consideration, as described below, higher educational institutions can lead communities on the way of sustainable development.

Technology Development Projects

The development and dissemination of technological advances in nanoscience, nanotechnology, digitization, knowledge sharing, e-business, and network economy are the popular themes of the business world in 21st century (Katzel, 2006; Porter, 2001). Companies, without exception, are keen on to improve their technologies and knowledge in order to gain a sustainable competitive advantage (Rangan and Adner, 2001; Utterback and Acee, 2005). Companies should also adapt themselves to this race for being successful in the competitive business world.

As an alternative economic cooperation, universities may help the business world on this purpose, and technology centers or parks can be established in order to provide a platform for companies and researchers. These technology centers not only encourage the foundation of new small and medium-sized enterprises (SMEs) but also fulfill the needs of existing SMEs. In order to make these centers attractive, universities should take an initiative and contact with their international counterparts to prepare a relevant and feasible strategic plan for the collaboration. Establishing social networks with the business world and international technology centers, recruiting experts, having expatriates, and building strong ties with the government will be the pillars of the collaboration. For financial concerns, using international funding opportunities such as European Union and the World Bank development funds can enhance the feasibility of the collaboration.

Social Ventures

The second alternative collaboration can be formed among universities, government, and non-governmental institutions. The objective of this collaboration will be to recognize and solve local problems by changing the system, spreading the solution, and persuading entire societies. This alternative can be called a type of social entrepreneurship. According to Dees (1998), the primary purpose of social entrepreneurship is to pursue opportunities to address social needs and change. Social entrepreneurship can be a good collaboration for economic development, but mutual trust and working in harmony are crucial to attain the goals of the collaboration.

As another alternative collaboration, universities and NGOs can launch rural area development projects together in order to enhance the life quality of people. This can also provide new opportunities for entrepreneurs and start-ups. Universities can get together with local officials (e.g. governors and mayors) in order to start a campaign about this development strategy. In order to accomplish the objectives of the social ventures, the head of the collaboration committee should adopt the servant leadership perspective (Yukl, 2008). As a servant leader, he/she should bring NGOs, local businesses, officials, and researchers together and monitor internal and external opportunities to identify and revise the strategic plan. The servant leader has to be transparent and publicize the benefits of the collaboration to gain approval of the community. Otherwise, local actors can hesitate to be a part of these projects.

SMEs Improvement Programs

A majority of companies in developing countries are SMEs that can be defined as family-owned businesses or entrepreneurial companies. It is hard to observe professional management approaches in this type of businesses since the owners play a substantial role in organizational outcomes. Universities, chambers, and business organizations can cooperate in order to improve existing SMEs. Establishing a coordination office within the university is the first step of this collaboration. The head of this office should establish an encouraging climate for cooperation and to increase the performance of SMEs.

As always the collaboration will start with an analysis of the current situation including external and internal monitoring. Porter's (1980) five forces that influence what happens within the industry can be used in this

stage of the collaboration: (1) Existing companies, (2) potential new companies, (3) substitutes for products offered, (4) the suppliers, and (5) the customers. The combination of these five forces forms the business environment. Universities can help business organizations to analyze the structure of and dynamics between these forces, and then they can discover opportunities for improving upon competitive strategies.

A Case Study from Turkey

The Turkish Higher Education Council (YOK) signed an agreement with the State University of New York (SUNY) five years ago to support Turkish students who would pursue their graduate education in the US. In return, recipients of the scholarship did research to improve the life quality of Turkish underdeveloped regions, and they agreed to work as a faculty member in one of the eastern Turkish universities after the graduation. The main aim of this project was to encourage sustainable development in Turkey. The scholars played a crucial role to bridge Turkish and American universities, and this cooperation increased the interdisciplinary research opportunities.

As a result of the YOK-SUNY collaboration, several doctoral dissertations mentored by Turkish and American advisors have created synergy in a variety of fields such as agricultural science and veterinary medicine, environmental science and forestry, and computer science and engineering. For example, the industrial and electric-electronics engineers in Erzurum Ataturk University teamed up to solve a time consuming and optimization-related problem in engineering. The researchers applied the artificial neural network approach into the nonresonant electromagnetic measurement technique. The findings of this interdisciplinary project enhanced the accuracy of technique. In comparison to traditional methods, the same results were obtained in a shorter period of time. From the practical point-view, this theoretical improvement may increase the quality of materials electrical characterization in industrial-based applications.

Conclusion

Researchers from different scientific fields should be keen on to cooperate their knowledge in order to address real-world problems and make the goals of sustainable development achievable. Thus, higher educational institutions must take an initiative to provide opportunities for collaboration. Strengthening ties between higher educational institutions and others would bring a bright future not only to us but also to our grandchildren.

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