

Innovativeness in higher education organizations

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Abstract: The main purpose of this paper is to highlight the role of innovativeness in higher education organizations. Innovativeness has been recognized as an important driver of organizational success in business organizations, while its importance in higher education organizations has not yet been fully recognized and capitalized. In this framework, we are outlining basic starting points for understanding the implication of concept of innovativeness in higher education organizations. Further we discuss various possible facets of innovativeness in higher education organizations and outline key challenges related to the identification of innovations in educational sphere and measurement of innovativeness in higher education organizations. We conclude the paper with some suggestions for further research in this area and provide key building blocks for survey instrument.

Keywords: *innovativeness, higher education, research agenda, empirical examination, survey instrument.*

1 Introduction

Innovativeness has been during the decades recognized as an important driver of organizational success [1][2] and the cornerstone of organizational future development. Adjacently, the focus of the researchers was mainly on the innovativeness in profit oriented organizations [3], while there is paucity of the research about innovativeness, going beyond profit-oriented organizations, addressing innovativeness in public administration, higher education, non-governmental organizations, etc.

Narrowing down to the innovativeness in higher education organizations, the literature offers very general evidences about innovativeness in higher education, which are often presented on several case studies [4][5]. A deep insight into the current literature about innovativeness in higher education reveals that there are few commonly accepted definition of innovativeness in higher education, which will outline numerous possible facets of innovations in higher education organizations [6][7], what are barriers to innovativeness [8], how innovative are higher education organizations [5], etc. In terms of higher education organization key stakeholders - namely students, managers/deans, teachers - at least focus in surveying innovativeness is based on student's perception of "what is innovativeness in higher education organizations" and especially "how innovative are higher education organization", as perceived by the students.

This paper addresses above outlined challenges and provides following contributions in the domain of innovativeness in higher education. First, outlining the starting points for broadening the definition of innovativeness in higher education, which will encompasses numerous facets of innovation and barriers for innovations. Second, outlining the basic components of the questionnaire for surveying innovativeness of higher education organizations, where the focus is on student's perception of innovativeness.

2Theoretical background

2.1 The role of innovativeness in modern society

As European Union Council of Education, Youth and Culture has pointed out, creativity and innovations are crucial to a sustainable economic and social development of Europe. In fostering creativity and innovation, not only higher education, but all levels of education play important role. It further means that higher education institutions and other educational institutions need to "combine the development of specific knowledge and skills with generic capacities linked to creativity, such as curiosity, intuition, critical and lateral thinking, problem solving, experimentation, risk taking and the ability to learn from failure, use of the imagination and hypothetical reasoning, and a sense of entrepreneurship" [1].

In order to maintain their relevance in contemporary society, higher education institutions need innovative responses to turbulent external and internal pressures. The key challenges facing traditional higher education institutions are as follows: the emergence of the knowledge-intensive economy, the need to train creative and innovative workforce, global trends in higher education: massification vs. world class aspirations, and decreased funding and resources for higher education [2].

In a knowledge-based economy, workers not only need to have specialized skills, but they must be creative, work in teams, and adapt to rapidly-changing technologies and innovations. This shift stresses the importance of creativity and innovation and presents an important transition which will dramatically change the nature of employment in the future. Actually, many jobs could be at risk due to exponential advances in computer-controlled equipment, sensory tools, algorithmic sophistication, and processing power. Therefore, workers will need to develop four types of proficiencies: (1) expert knowledge in a given field; (2) the ability to pursue research and development; (3) the ability to engage in interactive problem solving; and (4) the capacity to adapt to changes in communication technologies [2].

As it has been estimated that total number of students will globally increase, higher education institutions may be under the greatest pressure to develop massification strategies. This will particularly be case in developing countries. Without innovative ideas, these countries may find it impossible to build capacity while simultaneously funding research and other important institutional activities. It further means that the focus will be on the quality of higher education, rather than massification. At the same time, international and national ranking systems, along with other comparative indicators, have increased competition between higher education institutions. Thus, higher education institutions aspire to world-class status [2].

Despite the fact that higher education institutions are under pressure to expand opportunities for student enrollment while improving quality, national governments are allocating fewer resources for higher education. In fact, in most European countries, restrictive national budgets intended for higher education can represent another important barrier to innovative learning [3].

2.2 Innovativeness in higher education

With these challenges facing higher education institutions, many higher education institutions around the world strive for survival and seek for competitive advantages through innovations [4]. Innovation can be defined as the implementation not just of new ideas, knowledge and practices but also of improved ideas, knowledge and practices. Many definitions of innovation are used in different contexts and disciplines. However, the most widely accepted definition of innovation comes from the Oslo Manual [5]. According to this definition, innovation is “the implementation of a new or significantly improved product (good or service) or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations”.

Accordingly, innovation in higher education institutions refers to their ability to produce and implement a new or enhanced process, product, or organizational method which has a considerable effect on the activities of a higher education institution and or its stakeholders such as students, communities, and firms [6].

Actually, higher education institutions could introduce 1) new products and services, such as a new syllabus, textbooks or educational resources; 2) new processes for delivering their services, such as the use of ICT in e-learning services; 3) new ways of organizing their activities, such as ICT to communicate with students and parents; or 4) new marketing techniques, e.g. differential pricing of postgraduate courses [7].

According to [8] product innovation within the HE environment can be defined as accepting, developing, and implementing new products such as courses, research projects, teaching materials, and curricula. As process innovation introduces new items into an organization's operations, such as task input specifications, equipment, work, and information, it is focused on developing and using technology competently, good financial management, continuous improvement of skills, and implementing incentive reward systems for members of staff so as to stimulate innovation [8].

To overcome various challenges and in order to improve innovativeness, higher education institutions should transform themselves fundamentally. It could be done by strong institutional leadership coupled with policy reforms that promote innovation [9, 10]. Well-designed innovation strategies in higher education could be based on the following [7]:

- Improved measurement and efficient system of knowledge creation and diffusion must be foundation of innovation in education. Efficient system of knowledge creation and diffusion implies extending from scientific research into teaching and learning, to the more applied bodies of knowledge in the teaching profession and knowledge entities in the system.
- Although innovation in education is not synonymous with the introduction of digital technology, innovation strategies should include use of technology for better teaching and learning practices.
- Effective innovation strategies in education must include an appropriate governance model: identifying leaders of change, defining the roles of stakeholders, dealing with resistance, and conceiving effective approaches for scaling and disseminating innovations.
- Finally, innovation in education requires strong evaluation. Without a broad and widely shared culture of evaluation, innovation in education will remain stuck at the level of well-intended but isolated pioneering efforts.

National education sector innovation strategies integrate specific strategies for research, development, targeted innovation and knowledge management in the education system. For example, specific objectives of Hungarian National Education Sector Innovation System (NESIS) are [7]: developing regulatory, organizational and institutional frameworks (e.g. involving stakeholders,

reviewing specific regulations from the perspective of innovation, strengthening the links between research, practice and policy), improving human conditions (e.g. exploring the human resources which may help innovation, strengthening R&D professionals, developing career models and competence standards), ensuring quality (strengthening quality management and assessment functions, linking quality and innovation, exploiting the potential of international co-operation in the field of quality), improving knowledge management (e.g. activating communication and co-operation among the participants of the knowledge triangle, closing knowledge gaps, national and international co-operation of research and development capacities, supporting the exchange and dissemination of knowledge, sharing good practices, renewing the initial and in-service training of teachers), exploiting the potential for technology development (e.g. making new educational technologies accessible, providing support through funding, incentivizing the use of new applications, introducing an assessment and accreditation system for new technologies).

3 Empirical approach for examining innovativeness of higher education organizations

To sum up, the current literature does not offer established and comprehensive instrument which will encompass key elements and/of facets of innovativeness in higher education organizations, barriers and drivers of innovativeness of higher education, etc; which will be a starting point for measuring innovativeness of higher education organizations.

Based on the above outlined cognitions, we propose an instrument for measuring innovativeness of higher education, which will encompass following elements:

- **Institutional framework** (modern ICT, government “support”, accreditation standards, etc.)
- **Intellectual capital** (knowledge, upgrading knowledge, in-service training, SOPs, etc.)
- **Innovativeness in HE** (e-learning, flexibility, students can choose subjects, on-line teaching materials, stimulating of students, mobility of students, co-developing the curricula, etc.)

As outlined in above sections of the paper, there is a substantial lack of studies about innovativeness in higher education in general, as well as those including students’ perception about this phenomenon. The innovativeness of higher education has been mostly studied, using case studies [6, 9]. Thus, the innovativeness has not yet been frequently assessed by key higher education organization stakeholders - namely students. In our proposal, innovativeness of

higher education should be examined by surveying student's perception about various facets about innovativeness. One of the reasons for examination of innovativeness of higher education organizations using student's samples is also quick and inexpensive access to the student population.

Main benefits for using student's population for examining innovativeness in higher education organizations are mainly following: (1) addressing the innovativeness of higher education organizations, by focusing on students as one of the key stakeholders, which were not frequently included in the discussion about innovativeness in higher education organizations; and (2) assessment of current state of innovativeness in higher education organizations from "the customer viewpoint", not only from internal organizational stakeholders.

Assessment of innovativeness of higher education organizations, through the lenses of students, will be beneficial in various ways. For instance, the results will give higher education organizations precise insight into actual state of innovativeness, as perceived by higher education's key stakeholders. These results are representing valuable information for further actions of higher education organizations, in order to improve innovativeness and single elements of innovativeness. For instance, higher education organizations can first address those most tackling, or identify where the discrepancy in the perception of innovativeness between teachers/managers on one hand, and students on the other hand are the highest.

Using student's sample for assessing innovativeness of higher education organizations is certainly not without limitations. First, students, especially those in early years of study are may not well familiar with all the "activities" carried out by the higher education organizations. Consequently, their answers may be misleading, like does higher education organization include students in project work. Second, using student's population may also limit the insight into the "back-stage" activities of higher education organizations, like internal process, relations between employees, atmosphere in organization, etc., since students have limited insight into mentioned areas. Third, students may perceive innovativeness of higher education differently than other key stakeholders - like managers/deans and staff.

Conclusions

To sum up, it is evident that the innovativeness in higher education organizations has been significantly under-examined in comparison to the innovativeness in profit oriented organizations. Adjacently, there is less consensus about the definition of innovation and especially facets of innovativeness in higher education organizations. In terms of key stakeholders - namely managers/deans, teachers and students, the latest were given much less attention than other two groups, when discussing about innovativeness in higher education organizations. In line with outlined cognitions, the main challenges for researcher in the field of innovativeness in higher education organizations will be to (1) provide a

comprehensive definition of innovativeness in higher education organizations, (2) identify and/or determine facets of innovativeness, key areas of innovativeness, drivers and barriers for innovativeness, (3) provide reliable instrument for surveying innovativeness of higher education, and (4) conduct empirical examination of student's attitudes towards innovativeness in higher education organizations.

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