STUDY REGARDING THE POSSIBILITIES OF TRANSITION TOWARDS AN SUSTAINABLE ENTREPRENEURIAL UNIVERSITY

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Abstract: The paper aims to identify and analyze factors that determine the transition from a traditional technical university to a sustainable entrepreneurial university. The research is based on Web-based questionnaire method and was made at the University “Politehnica” from Timisoara, based on a scientifically representative sample taken. The universities, are thus intended to play a highly central part in the innovative and entrepreneurial process.

Key words: sustainable, entrepreneurial, managerial, financial

1. INTRODUCTION

In the current environment, society suffers radical changes, which must be reflected, primarily in organizing social institutions. Universities have shown flexibility over time, starting their evolution from institutions with a the teaching "mission" – Teaching University, later adopted a knowledge generation function (research) – Research University. Today, universities need to assume another mission, namely to contribute to society development more directly, in order to join themselves into this process of transformation - Entrepreneurial University. The mode in which these universities can become entrepreneurial universities is reflected in the triple helix model. Taking in account the role of the universities, as starting point for the development of new knowledge, these must be consolidated through the "triple-helix" philosophy, which is an spiral type model of innovation that describes mutual relations in many different points of the process of accumulating knowledge.

The “triple-helix” model of university-industry-government relations is a neo-evolutionary model of innovation process being a model for the analysis of innovation in the knowledge based economy (Etzkowitz, 2008). The model integrates activities from three "institutional spheres": the universities, the business sector, the public sector. The first category is composed of universities that develop their educational programs aimed at training new skills for future graduates. The second category consists of decision makers in industry (entrepreneurs, investors, managers, executives). The third category consists of policy makers in legislative and executive institutions of the state, which regulates the legal conditions for the industry, research centers and universities, public funds for R & D and education (Etzkowitz, 2000).

Entrepreneurial University is one of the concepts born as a result of reaction of universities to changing external environment and is characterized by the following: has an independent activity, on own risk, are engaged in economic and social development of the surrounding region, are flexible, are using creatively the existing resources, redploy its staff to adapt to environmental demands and are operating under strict parameters of costs and profits (Clark, 2004).

The institutions of higher education and the universities, are thus intended to play a highly central part in the innovative and entrepreneurial process – in society at large and in the individual region.

![Fig. 1. The new perspective on the role universities](image)

Figure 1 presents the new perspective on the role of the universities, on learning and learning objectives.

Therefore, the universities must play a more important role in the creation stage of a new technology and industry period and the industry must play a more important role in its later improvement stages.

The Entrepreneurial University is a non-traditional institution which runs an independent activity on its own risk, being strongly involved in the economic and social development of the region where it is located (Fiet, 2000). All the resources the University uses are allocated creatively, including the human resource which may be distributed and re-distributed among departments according to the institutional needs and economic reasons. The characteristics of the entrepreneurial university are: autonomy, innovativeness, risk taking, proactiveness, competitive aggressiveness.

2. DATA AND METHODOLOGY

The survey was conducted through a web-based questionnaire and a personal e-mail was sent to faculty members of “Politehnica” University from Timisoara.

Due to the array of characteristics analyzed through the survey, the sample size was established on first instance based on linear characteristic, in unrepeatable variant (Isaie-Maniu et al., 2004):

\[ n \geq \frac{N \cdot z_{1-p} \cdot \sigma_{h}^2}{N \cdot \delta^2 + \frac{z_{1-p} \cdot \sigma_{h}^2}{1}} \]

(1)

where \( z_{1-p} \) are Laplace’s variable values, for a probability \( p = 1 - \alpha \), \( \alpha \) is the significance level, in our case \( \alpha = 0.001 \) (\( p = 99\% \)), and therefore \( z_{0.001} = 3.09 \); \( \sigma_{h}^2 \) - is the binary characteristic’s variance, that is \( \sigma_{h}^2 = \alpha \cdot (1 - \alpha) \). In order to reduce statistical uncertainty, maximum variance has been
utilizat, deci lucrarea a fost realizata cu cel mai scârzi case scenariu, deci in acest caz $\sigma^2 = 0.5 - (0.5) = 0.25 ; \delta^2$ este probabilitatea eroare, stabilita in acest caz la un nivel de 4%. Dacă calculăm, un număr de $n = 338$ de întrebări (enunțate) a fost obținut. Trebuie să reducem mai multa incertitudinea la acest cât, final 12 întrebări sunt scris la un număr de 28 unități (enunțate). Numărul obținat este 45,92%, acesta poate fi considerat ca un număr de aproximativ 28 unități (enunțate). A fost realizat un supliment de creștere a numărului de enunțuri cu 8%, obținuți. Pentru reducerea incertitudinii de la acest cât, lucru de la acest cât, final. În final, 12 întrebări au fost scris, datorat unei probabilități de eroare, evaluarea fiind realizată pe 156 enunțate. 

În această etapă, au fost identificate factorii care sunt mai influenți tranziția la un universitar de tip de întreprinzător. Ele au fost clasificate în patru categorii: managerial, financiar, calitativ și întreprinzător. Ele au fost grupate în patru categorii: performanță managerială (PM), gestionarea financiară (FM), sistem de monitorizare calitativă (CM), mecanisme de delegare (DM). 

Analyzează factorele financiare: identificând sursa de finanțare durabilă (IOF), sisteme de management financiar (OF), sistem de monitorizare calitativă (CM), mecanisme de delegare (DM) (fig.2). 

Analyzează factorii Managerial: performanță managerială (PM), gestionarea financiară (FM), sistem de monitorizare calitativă (CM), mecanisme de delegare (DM) (fig.2).

Fig. 4. Qualitative and entrepreneurial factors analysis

Connection with external environment is ensured by the following factors: partners from external environment with which university is collaborating (NPEE), centers developed through applicable scientific research (NCDASR), technologies, methodologies and procedures transferred to external environment (NTMP), universities with which university has partnerships (NEP), curriculums agreed with partners from external environment (NCPEE), finalized research projects in collaboration with partners from external environment (NFRS) (fig.5).

3. CONCLUSION

Analyzing the factors that determine the transition to a sustainable entrepreneurial university, based on the study conducted at University "Politehnica" from Timișoara there were obtained the following conclusions: the most important factors are: performant academic management (89.01%); obtaining durable financing sources (79.12%); developing an entrepreneurial culture (70.33%); number of finalized research projects in collaboration with partners from external environment (80.22%).

This has resulted in a need to apply a new perspective on the role of the universities and on the learning objectives the universities should comply with. This also entails new requirements to the implementation of the most advantageous learning processes.

4. REFERENCES


