

Issues of Introducing the University 3.0 Concept in The Higher Education System of Uzbekistan

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Abstract— The article is dedicated to the study of various theoretical aspects of University 3.0. It highlights and analyzes the essence of scientific articles by leading scientists of foreign countries and Uzbekistan. Based on the marketing concept of management, the author's interpretations of the University 3.0 are given, its advantage in educational, scientific, innovative and entrepreneurial activities is shown. Some ways of concretization and improvement of curricula, advanced training of teaching staff and training of students in non-economic specialties are recommended his is the template if you are using Microsoft Word to submit your manuscript. Font size of abstract is Times New Roman 10. In abstract citation should not be used.

Keywords - University 1.0; University 2.0; University 3.0; innovation; entrepreneurial university; commercialization of research; entrepreneurship education; curators of interfaces; web 3.0; third stream income; third knowledge revolution; marketing concept; marketization of higher education; marketing of higher education; business in education.

1. INTRODUCTION

Universities in Uzbekistan have been upgrading their development strategies on the basis of the Decree of the President of the Republic of Uzbekistan on the “Approval of the concept of development of the higher education system of the Republic of Uzbekistan until 2030” [1]. The concept includes gradual introduction of the "University 3.0" concept, which implies the interdependence of the activities of education, science, innovation and commercialization of the results of scientific research in higher education institutions.

As a result of conducted reforms in higher education in Uzbekistan the number of private universities is increasing forming up a ground for competition which is leading public universities also towards considering the relevant market needs in organizing their activities.

The number of universities were 86 units in 2017, which constituted 210 in 2023 of which 30 foreign, 65 non-governmental and 115 public universities [2].

Public universities are preferable for applicants at the moment in the country because of the following competitive factors:

- reputation or people’s trust to them because of their many years of existence;
- much lower tuition fees compared to private ones;
- availability of grants for students’ at large number;
- relatively low popularity of private universities, etc.

Apart from that, the national ranking system of public universities of Uzbekistan can also be an additional factor: the higher the rank the more attractive the university. However, the impact of the indicator depends on the provision of the popularity of the mentioned HE ranking system among applicants. If no applicant is aware of it then it might not have direct effect in terms of attractiveness. As the mentioned factors are the advantages of public universities, the public universities have more chances of attracting more applicants in terms of quantity and quality as well, i.e. applicants with higher IQ rate desire to take advantage of their ability to achieve grant for their studies. Therefore, public universities have a chance of having a higher quality content in terms of fresh students’ IQs.

Followings factors currently provide advantage in the country to private universities:

- More financial revenues because of higher tuition fees and unlimited enrolment.
- Flexibility in terms of responding to market changes.
- Feeling of ownership.
- Availability of options in terms of language of instruction.

Stemming from the described dynamics of private universities, it can be stated that, in current economic conditions, public universities will have to avoid relying on their above-mentioned advantages and start being more active in learning and responding the market needs in order to be prepared for upcoming challenges. In

other words, public universities also should form entrepreneurial spirit within themselves, which, to our understanding, is the main part of University 3.0 concept.

2. METHODOLOGY

Our analysis on published scientific articles abroad show that there are some differences in scientists' views in terms of the interpretation of the concept of University 3.0. Majority bind the concept with the entrepreneurial activities and commercialization of the results of scientific research, while some other views are there connecting it with the advancement of internet facilities, although not contradicting the former.

There have been many publications on University 3.0 concept. Although, while deriving views on University 3.0, majority focus on the entrepreneurial activities of universities there are some other views that connect the concept with the developments of internet networking and computer/mobile technologies.

For instance, Carola Boehm, Staffordshire University (United Kingdom) focuses on the educational processes and states that in current phase of development universities should be facilitators of learning, curators of interfaces between knowledge and society, and developers of environments where learning happens. "There is a big role here for knowledgeable and expertise-rich actors as lecturers and professors, but their predominant role of interacting with learners moves away from transmitting knowledge (University 1.0), and also away from curating knowledge (University 2.0) to facilitating learners to bring knowledge that is all around them to the learning process and managing this complexity in a curated learning environment in which sense-making and knowledge-creation is constantly part of that environment (University 3.0)" (table-1) [3].

According to Carola Boehm, in University 3.0 various interfaces between different levels of learners, different types of communities and different disciplines are carefully positioned. This careful positioning is a process of curating interfaces, with the facilitation of learning being at the heart of this process, rather than the acquisition of specific knowledge content itself.

M. Pańkowska from University of Economics in Katowice (Poland) also gives similar illustration of University 3.0. "University 3.0 can be defined by analogy to Web 3.0. The term "University 2.0" is considered to specify the web modern power from University 1.0. University 1.0 allowed users, i.e. students to passively accept the content provided by formal education teachers. University 2.0 allows students generate, share and develop the content by using diversified technologies (including You Tube, chats, Podcasts, blogs, online grading, quiz and assessments tools, social networking and publishing, cloud computing). The above technologies are widely used for educational purposes. The University 3.0 is associated with web 3.0 technologies. University 3.0 is to combine technological advances and social dimensions of various Web services and Internet applications" [4].

In his article, Jun Li from the University of Hong Kong (China) states that the Chinese University 3.0 can be exceptional: "Some contend that almost all universities follow institutional patterns derived from Western models and that all Asian universities are based on European academic models and traditions. However, the Chinese University 3.0 may be exceptional, demonstrating key characteristics of China's scholarly tradition, though it has been strongly influenced by various Western models over the 20th century. Taking a historical-cultural approach, this chapter constructs the concept of the Chinese University 3.0, investigating its key values and features and possible contributions in a global age." [5].

According to Jun Li, the four core values and features of the Chinese University 3.0. are self-mastery, intellectual freedom, humanist (zhi-xing) mission and institutional diversity (he'er butong). He used the Weber's (1948) concept of the ideal type to identify these core values and features in contrast to those that are traditional to Western universities.

The three articles referred above do not use the terms of entrepreneurship and commercialization at all in their content while describing university 3.0. Whereas entrepreneurship is the main active term in articles given below.

Alexander Karpov, from Bauman Moscow State Technical University (Russia) states that "the third mission, belonging to the University 3.0, includes two highly interrelated areas of activity: innovative-entrepreneurial and socio-cultural. The first, in particular, includes joint researches, contracts with industries, commercialization of intellectual property, regional development, corporate training, consultations and expertise. The second contains interactions of the University with diversified communities-civil, cultural, administrative-territorial, aimed, for example, at improvement of living standards, advancement of civil society, cultural enrichment of environment, support of traditional values and translation of new ones. Both spheres of the third mission are interrelated with the financial component of the University's activity, but it does not play a pivotal role in the latter" [6].

The article of Radzivon Marozau from Belarusian Economic Research and Outreach Center and Maribel Guerrero from Northumbria University (Great Britain), Universidad del Desarrollo (Chile), published in 2019, was titled "Development of the entrepreneurial university (University 3.0) in Belarus: An overview of determinants and challenges". They adopt the term of "University 3.0" defined as a subject of economic and social systems, forming a favorable environment for the implementation of the entrepreneurial potential of employees, students and graduates, developing an entrepreneurial culture, where, along with a high level of

education and research, innovative entrepreneurship is actively developing for economic and social development [7].

Majority of the scholar's views who bind University 3.0 with entrepreneurial activities might stem from or can be supported by the idea of US scientist Burton Clark who is well-known in the west for his contribution to higher education. In his book "Creating Entrepreneurial Universities" published in 1998 B.Clark analyzed how selected universities from England, Netherlands, Scotland, Sweden and Finland modified their activities entrepreneurially. As a result, he points out five elements which constitute an irreducible minimum:

- a strengthened steering core;
- an expanded developmental periphery;
- a diversified funding base;
- a stimulated academic heartland;
- and an integrated entrepreneurial culture [8].

He uses a term "third stream income" while illustrating the diversified funding base "To fashion a new change-oriented character, a university generally requires greater financial resources: it particularly needs discretionary funds. Widening the financial base becomes essential, since virtually everywhere mainline institutional support from government, as a share of total budget, is on the wane. Enterprising universities recognize this trend and turn it to advantage. They step up their efforts to raise money from a second major source, research councils, by more vigorously competing for grants and contracts. They set out to construct a widening and deepening portfolio of third-stream income sources that stretch from industrial firms, local governments, and philanthropic -foundations, to royalty income from intellectual property, earned income from campus services, student fees, and alumni fundraising. Third-stream sources represent true financial diversification. They are especially valuable in providing discretionary money, beyond overhead charges and top-sliced sums extracted from research grants" . This statement gives a picture of transforming universities from the 2nd phase to the 3rd phase.

In their book of "Funky business" (2000) and "Funky business forever" (2007) the Swedish authors K. Nordström and J.Ridderstråle highlight the third knowledge revolution. They connect phenomena with technology development where the 1st knowledge revolution refers to printing press in 1452, the 2nd to creation of TVs and radios, and the 3rd to the development of internet. "Fantastically, the early 1990s marked the beginning of the third wave. As Time magazine put it, instead of 500 TV channels, we now have millions of web sites. And they are interactive, two-way and live. The scale and speed of the third knowledge revolution is what makes it so different" [9] . Although the authors are not directly binding the mentioned stages with higher education, their view on the impact of internet development on the globe support the views of scholars C.Boehm and M.Pankowska who see University 3.0 in coherence with fast development of internet facilities.

There were publications on university 3.0 concept in Uzbekistan as well. Shukhrat A Rakhmatov and Aslitdin B Nizamov's article, published in 2020, was entitled "Principal components of implementation of "university-3.0" transformation in the development of innovative-entrepreneurial activities of modern higher educational institutions". Although in the article the authors did not give definition to University 3.0, the below principal components of "University-3.0" transformation in higher education illustrated by them gives understanding of the concept:

- Defining clear goals of innovation and entrepreneurship, the availability of appropriate material and technical base;
- Improving the organizational structure of higher education, development of innovative entrepreneurship infrastructure in accordance with the goals;
- Develop a culture that enhances innovation-entrepreneurial motivation, supports the activities;
- Development of innovative entrepreneurial knowledge and skills in university staff, wide involvement of students in this activity;
- Independence of higher education institutions, which assumes timely adaptation of internal environmental factors to changes in external environmental factors. [10].

In their article entitled "Economic Factors of Introduction of the "University 3.0" concept in Uzbekistan", Z.Jumakulov and A.Madaminov from Ferghana Politechnic Institute, Uzbekistan, define the concept of "University 3.0" as the one which implies the interdependence of the activities of commercialization of education, science, innovation and scientific research results. "The "University 3.0" concept emerged as a modern university based on entrepreneurship in the 50s of the last centuries. A modern university is an active, multifaceted and effective institution of society, which must simultaneously solve three major tasks - educational, scientific and innovative entrepreneurship. Along with academic education in such universities, it is necessary to encourage the entrepreneurial activities of graduates, which in turn makes it possible to become a center of socio-economic development" [11].

Another article from Ferghana Politechnic Institute, Uzbekistan, authored by G.M. Davlyatova and S.H.Abdullaeva, defines university 3.0 as a model which enables universities to independently attract the

resources that finance their activities. “It is also achieved on the basis of this model to apply innovative methods in teaching, to establish an inalienable relationship with the entrepreneurial sphere, to directly introduce the scientific research work carried out at the university into production [12].

The authors listed above, on the whole, correctly argue the theoretical aspects of the development of higher education. However, in our opinion, the theory of university development 1.0, 2.0, 3.0 must be considered from the marketing concept of the development of demand for goods and services linking this important process to education and, in particular, the gradual development of higher education.

It is well known that the development of society leads to the development of the population's demand for goods and services, and in connection with this, production and non-production activities are progressed further. In a non-production environment, these requirements, first of all, should be responded to by the education sector, in particular higher education. Therefore, we believe that the above theories of the development of universities 1.0, 2.0, 3.0 from the point of view of the concept of marketing are primarily associated with an increase in the level of people's well-being, which in turn requires further improvement in the activities of all areas, including the higher education system based on new marketing concepts. . It is the marketization and marketing of the sphere of higher education, primarily the sphere of non-economic education, that is the prerequisite for these processes in Uzbekistan.

This means that in Uzbekistan there is a relatively correct approach to understanding the concept of university 3.0 in the above theoretical interpretations. However, they do not reveal the essence of university 3.0 in terms of introducing a new model of teaching theoretical foundations of entrepreneurship to faculties in relation to their profile, and building the educational processes, qualification trainings, scientific, innovative and other processes based on marketing concepts.

3. CONCLUSION

To summarize, it can be stated that our research didn't not yield a fact that there is a uniquely accepted concept of University 3.0. Rather it is a general understanding which illustrates the higher educational institution with the ability of being active in responding to current phase and temp of economic and technological changes/developments. Although while deriving views on university 3.0 some scholars concentrated on entrepreneurial aspects and some connected it with contemporary development of internet facilities, it can be stated that they do not contradict each other, as the former emphasizes on the diversification of the sources of income and the latter concentrates purely on academic activities of universities. They rather fill one-another, as the more the income the better the chances to develop technological potential in terms of providing required experts, needed software and hardware. In our view, both aspects have to be considered while carrying out transformation, i.e. our universities have to work towards diversifying their portfolios of income as well as maintaining the effective use of opportunities of internet facilities in preparing specialists.

In our view, for developing entrepreneurial activities of a university, first of all, the development of entrepreneurial mindset of academic and non-academic staff of the university is very important.

In Uzbekistan, the process of in-depth study of theories and practices on University-3.0 is now underway. For instance, the first center “University-3.0” has been created at Tashkent State University Economics, its work plan has been developed and activities are being carried out.

Based on the theoretical conclusions analyzed above, it should first be noted that the issue of introducing the "University-3.0" concept in the higher education system of Uzbekistan is a very complex process that requires a lot of theoretical and practical research. Therefore, we would like to focus on the issue of "marketing", which is the priority direction of the problem and the main factor of entrepreneurship development in the higher education system.

Scientists of the world are paying special attention to two stages in the improvement and efficiency of the field of higher education-“marketization” and “marketing”.

Marketization of higher education is defined as the attempt to put the provision of higher education on a market basis, where the demand and supply of student education, academic research and other university activities are balanced through the price mechanism [13],[14],[15];

Marketing of higher education is a broader concept, and the higher education student should achieve priority in obtaining a special competence-qualification, i.e., receive educational services in the form of knowledge and skills, keep the graduate in contact throughout his career, use the acquired knowledge It is understood to achieve a separate evaluation of the effect during the period [16],[17],[18].

So, in our opinion, the issue of marketing of higher education in Uzbekistan should, first of all, begin with non-economic areas. At the same time, it is necessary to fully start the issue of marketing of higher education in the directions of the economy. Thus, step by step these processes are carried out.

Until now, the importance of researching the theoretical aspects of marketing and using its results in entrepreneurship in general, including in the field of education, is still very low in Uzbekistan. Therefore, the

issue of introducing the concept of "University-3.0" to higher education should be first of all in non-economic education areas, each field has its own entrepreneurship-marketing, and manuals and textbooks should be created by researching their theoretical and methodological foundations. Why start with that? Because now in Uzbekistan market economy or entrepreneurship is mainly understood as the work of scientists, experts and practitioners of economic fields. The essence of the concepts of "market", "entrepreneurship", "marketing" has not penetrated the activities of scientists, experts and practitioners of other non-economic fields. If two-thirds of those working in the public administration system are graduates of non-economic higher education, if the entrepreneurship-theoretical basis of the market-marketing science is not taught in their curricula, if textbooks reflecting the market of non-economic fields have not been created, how they can function fully in the present conditions. Therefore, the issue of introducing market mechanisms to all sectors of the economy and further increasing their efficiency in Uzbekistan remains extremely urgent.

In our opinion, the Ministry of Higher Education, Science and Innovation should pay special attention to this situation. At the same time, we think that it is time to research the marketing problems of non-economic fields, create a new model of educational processes, and direct scientific work to the solution of commercialization problems in the system of universities, institutes and the Academy of Sciences of Uzbekistan.

Another important issue is that the labor market in Uzbekistan is not fully functioning. It is because the theoretical and practical aspects of the labor market were not created on the basis of marketing principles, they are not connected with the activities of higher education. There is a need for special laws in this regard.

Currently, NIET is participating at a project "TRIGGER" which directly addresses the issue of forming entrepreneurial mindset at university staff and students. The project is financed by EU in the framework of Capacity Building of Higher Education within Erasmus Plus program. The project is coordinated by Technical University of Košice (Slovakia) with a partnership of 16 higher educational institutions (5 EU, 11 Central Asian universities) including NIET. The researches have been carried out at all CA higher educational institutions. The main goal of TRIGGER is to enhance employment in Central Asia through equipping academic and non-academic staff, and students with entrepreneurial skills, and through developing career services [19]. Within the TRIGGER project following research and educational activities have been being carried out at NIET in relation to forming entrepreneurial mindset with students of different specialties:

1) Surveys have been conducted on self-assessment of current state and activities of NIET, identification of gaps between existing qualifications and required qualifications with the help of employers and graduates' opinion, counseling and services for students on career at NIET, and results have been analyzed.

2) On the basis of the analysis of the questionnaires, the competencies that should be given attention were determined.

3) Changes have been made to the working programs of the selected subjects for the formation of defined competencies, and the process is currently being continued.

On the basis of TRIGGER project, NIET's scheme for entrepreneurship education support has been worked out and processes are now ongoing, which will be finalized by June, 2024 [20].

Effectiveness of implementation of innovative reforms in the country depends on the degree of understanding of innovative ideas at top levels of the government. "The reason of some current misunderstandings between entrepreneurs and government bodies stems from the lack of understanding of the aim of entrepreneurs by personnel in deciding positions." [16]. Therefore, equipping students with entrepreneurial thinking would not only give a chance for them to be innovative as specialists or to establish own businesses, but also would make them become supportive persons for innovative ideas when acting in key positions.

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