STRIVING TO BECOME AN ENTREPENUERAL UNIVERSITY TO BRIDGE THE GAP BETWEEN KNOWING AND DOING

A STUDY ON AL-ZAYTOONAH UNIVERSIY OF JORDAN

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ABSTRACT

In the age of technology and knowledge communities, labor and capital are no longer considered the main production factors. Knowledge and human capital are becoming exceedingly important in strengthening the economic growth and development. Universities are one of the leading resources for knowledge generation. Research is considered one of the pillars universities rely on promoting its faculty, renewing its license or even gaining international accreditation. With all published researches, a gap between this knowledge and practicing it, is becoming increasingly noticeable. This gap is called the Knowing-Doing-Gap. To reduce this gap, researchers and universities worked on setting a framework to ensure that part of the knowledge generated is applied and practiced in the market. Such universities are called "Entrepreneurial Universities". This paper explores the definition of entrepreneurial universities and the conditions for becoming an entrepreneurial university (on both macro and micro levels). Furthermore, the paper sheds light on the steps taken by Al-Zaytoonah University of Jordan striving to become an entrepreneurial university through bridging the gap between knowledge and application. The paper answers the following question: “What steps is Al-Zaytoonah taking to address the knowing-doing-gap?”

1. INTRODUTION

In the information age and knowledge communities, natural resources are no longer considered the basic economic resources and production factors. In increasing percentage, knowledge and human capital are considered as the most important variables and factors in the process of economic development and growth (Rifai, F. 2010). South Korea, as an example, changed it status from a poor country to a competitive industrial country on a global scale due to proper use of knowledge and leadership (Rifai, F., 2010, P.9). Generally and theoretically, knowledge generating and production should be linked with application of such knowledge in the market. The growing importance of the use of knowledge and its application to economic success reflects

the growing importance of the concept of the knowledge economy (Stehr, N., 1994, P. 218; Combé, N., 2008, P. 1).

To discover and exploit the opportunities of economic and social development, this paper will shed light on the role of universities in taking advantage of converting that knowledge into application, and it will cover the steps taken by one of the universities in the Middle East, Al Zaytoonah University, to bridge that gap.

2. KNOWING-DOING-GAP

The gap between knowledge and practice; *The Knowing-Doing-Gap*, is described as the situation where the educational system is separated from the economic system (both systems are independent). Both systems are isolated in their performance but are dependent on each other (Röpke, J., 2003, S. 5).

Researchers discussed several reasons for the existence of the gap between knowledge and application, briefly summarized, some of the reasons are:

1- Culture clash between scientists and managers. (Roux, Rogers, Biggs, Ashton, Sergeant 2006; Cabin, 2007; Gibbons, Zammit, Youngentob, 2008).
2- Scientist's lack of interdisciplinary or inability to connect science with societal needs (McNie, 2007).
3- Poor scientific literacy or insufficient expertise on the part of managers and practitioners (Sunderland, Shanley & Campbell, 2009).
4- Lack of stakeholder or practitioner involvement in the design of research agendas (Knight, Cowling, Rouget, Balmford, Lombard, Campbell 2008; Shaw, Wilson, Richardson, 2010).
5- Manager's inability to access scientific literature (Pullin & Knight, 2005).
6- Academic systems that do not reward scientists' participation in policy or practice (Shanley & Lopez 2009; Arlettaz, Schaub, Fournier, 2010).
7- Mismatches in scale, budget, or approach between research experiments and management efforts (Hulme 2003; D'Antonio, Jackson, Horvitz & Hedberg, 2004; Fazey, Fischer & Lindenmayer, 2005; Cabin 2007; Kuebbing, Nun & Simberloff, 2013).

3. THE UNIVERSITY TO CONTRIBUTE TO BRIDGE THE KNOWING-DOING-GAP

Universities, due to their infrastructure and available resources and human capital, have the potential to play an active role in the development process, but this potential is not taken advantage of. This potential often remains untapped economically and that is a huge waste of power, which can be exploited to benefit both the market as well as universities. In this age, we see a shift in the types of universities. The traditional university and the entrepreneurship university.

3.1. THE TRADITIONAL UNIVERSITY IN THE LIGHT OF THE INPUT-LOGIC

The ordinary teaching methods and system and academic outputs of universities are almost sufficient for getting an ordinary job. However, these teaching systems and outputs are not sufficient to face the increasing challenges in this dynamic environment and knowledge society, and its growing complexity.

The most dominant thinking way in this case is the "Input Logic", which states that to increase output (goods, services or scientific researches) we have to increase input (factor, money, teachers and researchers). The Input-Logic is a quantity figure and expressed quantity changes. From this point of view, the role of universities, by supporting the regional economy, is largely limited by supplying inputs related to entrepreneurship such as knowledge, technology and innovative ideas as well as qualified human resources and Infrastructure (laboratories, rooms, etc.). This means that the ‘‘input logic’’ greatly affects the decision-making within universities (Rifai, 2010).

3.2. UNIVERSITIES IN THE LIGHT OF THE INNOVATION-LOGIC – THE ENTREPRENEURIAL UNIVERSITY

The corresponding role of the input logic is the "innovation logic", which was introduced for the first time in this context by Schumpeter (Schumpeter, 2006, P.104). Schumpeter focused on the importance of entrepreneurs in implementing new ideas and new knowledge economically in the market. Introducing innovation to universities enabled them to lead the market with graduates who can apply what they learned, and hence, reduce the gap between knowing and doing.

Most universities are based on the ideas of Humboldt (Humboldt-ideal) which considers that the task of the university lies in teaching and scientific research. But this ideal stands as a barrier in linking universities with science and economic systems togother. This ideal supports keeping knowledge in universities and not for application, but only in specific cases.

Worldwide, there are many entrepreneurial universities such as Tsinghua University[1] in China, the cooperative network between BayME (Bayerischer Unternehmensverband Metall und Elektro e.V. - Business Association of the Bavarian metal and electrical) in Germany, VBM (Verband der Bayerischen Metall- und Elektro-Industrie e.V. - Bavarian Association of metal and electrical industries). This cooperative network formed with TUM (Technical University of Munich - Technical University of Munich[2]), FAU (Friedrich Alexander University - Friedrich-Alexander University) includes all the components required to bridge the gap between theory and practic.

For the purpose of this research, the model and definition of entrepreneurial university used by Jochen Röpke, has taken as theoretical basic of this paper (Röpke, J., 2009). Röpke describes the knowledge and science in the universities that did not find its way to the economic system as dead-knowledge and science. Thus, the process of producing knowledge with tangible benefit and closing the gap between knowledge and practice depends primarily on the entrepreneurial qualities and skills of scientists working in scientific and research institutions (Röpke, J., 1998, P.85l; Creuznacher, 2008 P. 191).

Röpke introduce entrepreneurship as a third factor to the two main factors “teaching and research” in universities. In his research, (Röpke, J., 2001, P.2.) Röpke noted that the engine and fuel of economics is not just knowledge, but the ability to apply this knowledge successfully and profitably in the market. The structural link between knowledge systems and economic systems is the seed and the origin of the knowledge society and entrepreneurship. In his research, Röpke identified four requirements for a university to act entrepreneurially and reduce the gap between knowledge and applications:

[1] http://www.tsinghua.edu.cn/publish/then/
[2] http://www.tum.de/

1. Physical inputs: here we focus on providing the required input- appropriate infrastructure at the universities to support new and entrepreneurial projects such as technological centers (Technology Parks). These technology parks support new startups through the available resources (computers and other material resources), as well as giving advice and administrative support.
2. Academic requirements: universities have to try to expand their mission (teaching and research) through introduction of the entrepreneurial element. To implement this, universities have to enter the theories, principles and ideas related to innovation and entrepreneurship to different approaches of lectures on entrepreneurship or even create a department of entrepreneurship and innovation.
3. Training: training of owners of new startups. We focus here on the strength of personal skills, increasing the capacities, knowledge and practical skills of the owners of new startups through targeted training programs. In this training, new entrepreneurs will get multidisciplinary knowledge and training methods to help them developing their own entrepreneurial characters and qualities.
4. The supporter (Catalysis): here is an attempt to make universities as a major supporter for the development of the geographical area, where the university is located. We try to link universities directly with other systems (economic , law, education etc.) and try to let universities get political support and/or get support from companies, which get benefits from transforming universities into entrepreneurial universities

4. UNIVERSITIES IN JORDAN

Based on information from the Ministry of Higher Education & Scientific Research MOHE, there are 27 public and private universities in Jordan covering different disciplines and use the credit-hour system. In the academic year 2012/2013 there were 249.432 students enrolled in Jordanian universities. Econimic and Administrative Sciences had the highest percentage of students (25%). The jordanian government works on directing universities towards entrepreneurship and teaching leadership through its offices (such as Queen Rania Center for Entrepreneurship in collaboration with Intel Corporation). The Government pushed universities into adopting an entrepreneurship role in order to graduate better quality students. Some government universities, for example,

Yarmouk University[3], established an "Academic Leadership Excellence complex" in Hijjawi Faculty of Engineering at the beginning of 2004 (Yarmouk University). In the private sector, there are also many corporations involved in introducing and dealing with "Entrepreneurship" such as Oasis500 (oasis500.com) and Young Entrepreneurs Association – YEA (yea.com.jo)

Al-Zaytoonah University of Jordan is a private university founded in 1993 and has six faculties: Science and Information Technology, Pharmaceutical, Nursing, Arts, Economics and Administrative Sciences, Law and Engineering & Technology. As of the first Semester in the academic year 2013-2014 there were more than 8,000 students enrolled in the university, of whom circa 15% were international students from ca. 28 countries. In addition to Bachelor degree, the University offers Master degree in Management, Accounting, Marketing, Pharmaceutical, and Computer Science. The University very soon will get an accreditation for further Master-Programs such as Law, Nursing and Arts. Furthermore, the University is dealing with Universities abroad to establish a Twinning-Relationship to offer a PhD-Program in Management.

5. THE STUDY

Using Röpke's model for entrepreneurial universities, this research will shed light on the effort made by Al-Zaytoonah University of Jordan for becoming an "Entrepreneurial University".

5.1. STUDY DATA

Data for this research have collected from several resources:

1- Self-assessment Report of Al-Zaytoonah for the years 2011-2013 (zuj.edu.jo): controlled by Accreditation and Quality Assurance Office and submitted to the same office – Ministry of Higher Education & Scientific Research (caqaye.org)
2- Interview with Prof. Dr. Obaidat, Turki, Vice President of Al-Zaytoonah University and Chief of Deanship Scientific Research at Al-Zaytoonah University.
3- Dr. Feras Alazzeh, Chief of the office of Quality Assurance at Al-Zaytoonah University

[3] http://www.yu.edu.jo/index.php?option=com_k2&view=item&id=89:%D9%85%D8%AC%D9%85%D8%B9-%D8%A7%D9%84%D8%B1%D9%8A%D8%A7%D8%AF%D8%A9-%D8%A7%D9%84%D8%A3%D9%83%D8%A7%D8%AF%D9%8A%D9%85%D9%8A%D8%A9-%D9%84%D9%84%D8%AA%D9%85%D9%8A%D8%B2&Itemid=417

4- Mrs. Hanan Marei, Chief of the office of Professional Rehabilitation at Al-Zaytoonah University

5.2. ANALYSIS

5.2.1. Physical inputs:

The material input and infrastructure in Al-Zaytoonah University are adequate. The financial resources available to the Al-Zaytoonah are sufficient to achieve its mission, objectives, and stability. Al-Zaytoonah has a clear methodology and strategic planning to maintain a constant and continuous development of material and human resources, infrastructure and the approach to achieve future plans. Al-Zaytoonah has material inputs such as modern laboratories and workshops, which always are updated and developed and contribute to the development of technological applications in ways of teaching and learning. Furthermore, Al-Zaytoonah owns a library equipped to the highest technical levels.

5.2.2. Academic requirements:

Al-Zaytoonah is developing the academic programs to cope with the needs of the labor market. It is developing disciplines and programs that meet the needs of the labor market and contribute to the development in general. It started to introduce and teach materials related to Entrepreneurship and innovation such as "Entrepreneurial Business" and "Knowledge management". Al-Zaytoonah has been teaching master programs in management and accounting and recently it got license for further master programs such as nursing, pharmaceutical and marketing. Al-Zaytoonah is very close now to get the license for teaching PhD in management.

On the other hand, Al-Zaytoonah shows a lack of the development programs and continuing education for faculty members, but supports scientific research projects theoretically and practically and participates in scientific conferences, and has domestic, regional and international agreements in cultural and scientific fields. However, it turns out that the economic usage of all these mentioned efforts is weak. In addition, the contribution of all these mentioned efforts in the development of study plans and academic programs in the economy and society are not matured enough. Between the years 2011-2013 there were 705 published scientific researchers from Al-Zaytoonah but only one patent was registered in this time.

Al-Zaytoonah has a lot of scientific cooperation with the production and service sectors such as pharmaceutical, health care, the development of learning tools and the computerization of administrative work. In addition, Al-Zaytoonah contributes to solve problems related to the renewable energy and alternative energy. In general, for al-Zaytoonah there is a big need to measure these mentioned efforts to get feedback in order to evaluate these efforts and to do them more effectively.

Al-Zaytoonah works under clear policy and instructions, which affect all its activities and decisions. In addition, there are systematic planning, monitoring and implementation to ensure the continuous development of performance. The leadership is working well, flexible, and can be moved toward entrepreneurship. Furthermore, there is an office for Quality Assurance in Al-Zaytoonah with qualified human capital and all needed material. This office has a documented working methodology, clear strategy, operational plans and performance indicators, which support the continuous improvement and raises the level of efficiency in the university in all respects.

5.2.3. Training

The author has made an interview with Mrs. Hanan Merey - Chief of the office of Professional rehabilitation at Al-Zaytoonah University, This office is a joint venture between the University of Al-Zaytoonah and King Abdullah II Fund of development and located in Al-Zaytoonah. This office supports students and enhances their capacity for scientific and practical ability to raise their capability and to increase the chances of getting a job or create a project based on their new ideas.

As examples of the efforts made:

a- A cooperation with the Canadian government : offers different courses such as Communication Skills, Teamwork skills, Problem-solving skills, and Information management skills

b- Cooperation with the Ministry of Labor : manages "Career Day", which is an annual meeting between ca. 50 private and public corporations and the students of Al-Zaytoonah. That way these companies will collect information about the abilities of the students.

Furthermore, the university will get feedback, which could be used to improve the educational plans and directing scientific research and to facilitate the recruitment process.

c- Cooperation with the Foundation *Injaz* to finance and support projects by students of Al-Zaytoonah about "Production of natural manure"

d- Collaboration with the Royal Health Awareness Society to support and finance a project from students of Al-Zaytoonah about "health mix"

5.2.4. The supporter (Catalysis)

The Author has conducted an interview with Prof. Dr. Obaidat, Turki, The Vice President of Al-Zaytoonah University and Dean of Scientific Research. In addition, the author has documents from the office of "Quality assurance" about research projects of Al-Zaytoonah. The University provides financial and material support for applied research projects that serve the community and meet many of its needs. Furthermore, supports the development of the industrial and service sectors in this community. Al-Zaytoonah supported 26 research projects in the years 2001-2013 with an amount of 842.660 JD (US $ 1.2 million). Below are some examples of these research projects from the faculties of engineering, nursing, pharmaceutical, science, information technology, Economics and Administrative Sciences Sequentially:

1- Solar Evacuated Tube Hybrid Heating System
2- Impact of Epilepsy on Patient's physical and psychosocial functioning
3- Impact of pharmaceutical care on clinical outcomes in patients with type 2 diabetes
4- Conference management and archiving system CMAS
5- Application of data mining and its roles in managing banking and accounting transaction in Jordanian banks

In its policy, Al-Zaytoonah is committed to the annexation of representatives from institutions and community organizations and specialists to membership in the university councils to promote and develop cooperation between the university and the community.

For the near future, the university is planning to do the following, which will affect the striving efforts toward entrepreneurial university positively:

1- Development of disciplines and academic programs

2- Introduction of instructions for the active and outstanding researcher and establishment of a unit to develop faculty members
3- Lay the foundations for the granting of incentive awards to faculty members who possess patents
4- Planning for the establishment of an annual meeting for people and corporations that the university has dealt with in some projects.

6. CONCLUSION

Steadily, the development process of Al-Zaytoonah is progressing, clear and measurable especially in the physical and academic aspects. Al-Zaytoonah is updating its material assets such as laboratories, library and teaching systems, and has made success in expanding its teaching programs and study specializations and master programs and soon PhD-Program in management. Recently Al-Zaytoonah has introduced subjects related to Entrepreneurship and innovation to its teaching programs and it is increasing its efforts and support for scientific research and scientific relationship with domestic, regional and international institutions. One of the most important acts, which Al-Zaytoonah has done toward entrepreneurial university, is that Al-Zaytoonah provides support for individuals and groups to move from entrepreneurial ideas to action. This action and support was limited to three cases, failed, and was stopped. In addition, the "Career Day" contributes to build a bridge between Al-Zaytoonah and the market.

Al-Zaytoonah continually supports research projects such as in engineering, information technology, nursing and pharmaceutical that benefit the local community. In addition, the scientific relationship between Al-Zaytoonah and its environment, and the annexation of representatives from the private and public sectors in its councils shows that Al-Zaytoonah is committed to collaboration and knowledge exchange with industry, society and the public sector, and demonstrates active involvement in partnerships and relationships with a wide range of stakeholders. That means the mentoring by academic and industry personnel is available.

The efforts and steps that taken by Al-Zaytoonah brought it slowly closer to the status of entrepreneurial university but there are many things still to be done in this matter.

7. **RECOMMANDATIONS**

Based on literature about entrepreneurship, and experience the author gained throughout his career, and experience in "Entrepreneurial Universities", the author suggests activities and actions for Al-Zaytoonah to increase its involvement with entrepreneurship, and therefore to increase its involvement in the market and industry, contribute to the development of society, improve its reputation and increase student number and their quality and support new start-ups from the university:

Al-Zaytoonah has to establish a unit or department "Centre of Entrepreneurship" with a wide range of activities such as:

1- develop entrepreneurship teaching program,
2- actively encourage individuals to become entrepreneurial
3- provide opportunities to experience entrepreneurship
4- allocate rewards incentive for creative and talented people to raise the desire to continue being innovative and creative
5- Support new entrepreneurial ideas of students and university staff by offering consultancy and training related to new establishment of business based on new entrepreneurial ideas (start-ups).
6- Facilitate access to private financing for its potential entrepreneurs.
7- provide opportunities for staff and students to take part in entrepreneurial activities with business in the external environment and actively participate in national and international networks and associations related to entrepreneurship
8- explicitly support the international mobility of its staff and students
9- seek and attract entrepreneurial staff (national and international)
10- Conduct a study to determine the needs of the local community in order to direct university research efforts to meet the community needs and strengthen the relationship with them.
11- Arrange regular meetings between students and representatives from the industry to create ideas related to the market and industry needs
12- Link thesis of master students with the industry to research real problems

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