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Knowledge Economy and North Cyprus

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Abstract

It is very well known in the knowledge management literature that knowledge has become an engine of social, economic and cultural development in today's world. Involvement of education in economic growth occurs through creation of new knowledge and transfer of knowledge and information. Better educated individuals will later become an innovator or creator of new technology. Schools provide the education necessary to understand this new information and technology. Education is a vital factor for the accumulation of intellectual capital to reach economic growth. As a small developing island with its eleven universities, government assigning education is one of the locomotive sectors of the North Cyprus economy. Today's globalised world, transforming economies from traditional labour based production technique to modern knowledge based production technique is inevitable. Rise of knowledge and technology- intensive jobs and economic activities, investment in knowledge based assets and increasing well qualified and educated workforces indicates the knowledge based economic transformation is necessary and inevitable for rapid economic growth. The main purpose of this paper is to point out knowledge and knowledge based economies and creates both the public and government awareness about knowledge based economy in North Cyprus. The paper also investigates the importance of human capital, intellectual capital and intangible assets in production process and emphasizes the importance of technology based highly productive production systems and their impact on economic development. The study will be a reference to other small economies as well.

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Keywords: knowledge economy, intellectual capital, human capital, North Cyprus, economic growth

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1. Introduction

As stated by Davenport and Prusak(1998) knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experience, values, contextual information. It originates and is applied in the minds of knower's. Knowledge arises as a dynamic learning process that occurs between individuals, teams, organizations and communities (Hawkings, 1994).

The traditional economy based on the use of factors of production- land, labor, capital and entrepreneurs – in the production process. Economic value was mainly based on the productivity and effective use of traditional factors of productions. But today's world, economies facing with two new factors of production- information and knowledge. According to Malhotra (2003) knowledge differs from physical assets and requires understanding in terms of quality and content of performance outcomes. Technological improvement and globalization are catalysts for the use of knowledge and information in the production process. Societies started to turn into the information societies which have created the knowledge economy.

Knowledge and intellectual capital are the most important resources for growth and competitiveness and it is an idea of a transformation from an industrial society to a knowledge society (Kline, 2006). Intellectual capital is also considered instrumental in the determination of enterprise value and national economic performance (Petty and Guthrie, 2000).

2 Knowledge Economy

In knowledge economy, knowledge is the basic production factor which has three characteristics; it can be used over and over without being consumed by that use, it can be used many individuals at the same time, it can be used in many different locations simultaneously. Knowledge can produce economic value through diffusion of knowledge into the production process. The economics of knowledge are very different from an ordinary goods and services. The creation, distribution and application of knowledge are the bases of the knowledge economy (Hogan, 2011). A knowledge based economy is defined as 'an economy that is capable of knowledge production, dissemination and use: where knowledge is a key factor in growth, wealth creation and employment, and where human capital is the driver of creativity, innovation and generation of new ideas, with reliance on information and communication technology (ICT) as an enabler (www.jeg.org.sa/data/modules/contents/uploads/infopdf/1820.pdf). In literature the main knowledge economy variables are listed as: ICT readiness, electronic government index, the capacity of internet infrastructure and usage, investment on R&D for organizations, etc.

Knowledge based economy have several characteristics:

- It is focus on intangible resources rather than tangible resources (Edvinsson and Malone,1997)
- Rapid growth of information technology
- It is stimulated by the rapid growth of information technologies (ITs) with telecommunication and networking
- Knowledge has become an independent force and the most decisive factor in social, economic, technological and cultural transformation (UNECE, 2002).

Asgeirsdottir (2006) emphasized four important factors that need to be taken into account when countries and their institutions want to promote their knowledge economy: stable macroeconomic policies, knowledge based economic activities, globalisation and new organisational form based on investing high information and communication technology (ICT) and respond customer demand. Much of the macroeconomic research on the knowledge economy has focused on the linkage between technology and labour productivity, defined as the amount of output given a unit of labour input (Powel and Snellman, 2004). Economic growth and greater productivity can be achieved when the intellectual capital accumulated. In the knowledge based economy, intellectual capital is a core factor (Seon, Joung, Bum, Byoung, Lee and Ho, 2006).

Intellectual capital (IC) was originally used by Skandia (1996) in knowledge management literature. Scandia

(1996) illustrates and classifies different forms of capital on an organizational level. IC defined as persons knowledge endowed with, applied experience, organizational technology, customer relationships and professional skills that provide competitive edge in the market (Edvinsson, 1997).

According to Noordin and Mohtar (2013) intellectual capital contains:

- human capital; anything related to people, the employees, their tacit knowledge, skills, experience and attitude, and their ability to listen to one another and build upon one another's competencies.
- Structural capital; represents the intangibles, like codified knowledge, procedures, processes, goodwill, patents and culture: (3) relational capital; represents the relationship with customers, suppliers and other external stakeholders

Today's globalized world, importance of knowledge and intellectual capital has been arises. The value creation is being linked with the knowledge. Soltes and Herman (2013) also pointed out the importance of knowledge and intellectual capital on business, organisations and market with increasing productivity in production process.

2.1 Knowledge Economy and Economic Growth:

Economic growth is an increase in the capacity of economy to produce goods and services from one period of time to another. The most important measure of economic growth is the real GDP (gross domestic product) per capita. Lucas (1988) emphasized that economic growth has been attributed to the accumulation of human and physical capital and increased productivity arising from technological innovation.

In recent years, economist have accepted that technology has become an endogenous growth factor with increasing returns to scale instead of diminishing returns to scale or constant returns to scale. Many economies are seeking to shift their economies to technology based economy. In order to do this, countries knowledge and information abilities have to be able to produce technology. Knowledge based economic activities allow countries to create value with increasing productivity of factors of production (Cavusoglu, 2014).

According to Chavula (2010) the knowledge is at the heart of economic growth, which increases the ability to take advantage of existing technologies and innovations, enhanced competitiveness and productivity. The knowledge economy in which a general purpose technology provides a powerful infrastructure that increases productivity and offers new opportunities to any knowledge-driven activity (Foray, 2006). For economic growth, many countries are seeking to shift their economies to technology based economy and started to adapt their economies with knowledge based economy. Knowledge, as embodied in human capital and technology, has always been an important contributor of economic development.

There are a variety of theories that attempt to explain why some countries grow faster than others. Theories which had described economic growth started in classical period with Adam Smith, David Ricardo and Karl Marks. In history of economic thought, classical economists described the capital to labour ratio and diminishing returns. Technological progress is the initiator of changing traditional growth models to modern growth models (Cavusoglu, 2014). The technology is a common factor for economic growth. According to Solow (1956), technological improvement is an exogenous factor while Romer (1990) advocated production process itself produces technology automatically, which assumed that the technology is an endogenous factor. In recent years, economist have accepted that technology has become an endogenous growth factor with increasing returns to scale instead of diminishing returns to scale or constant returns to scale. Many economies are seeking to shift their economies to technology based economy. In order to do this, countries knowledge and information abilities have to be able to produce technology. Knowledge based economic activities allow countries to create value with increasing productivity of factors of production.

3 North Cyprus as a Small Developing Economy

Cyprus is the third largest island in the Mediterranean Sea. The economy of North Cyprus is mainly dependent on service sectors which are public sector, tourism and higher education sector. Contribution of service sectors to the GDP was almost 69% in 2007. The characteristic of being small island economy is extremely supported by North

Cyprus. For example, trade to GDP ratio (export + import to GDP) was 75, 6% in 1990 and decreased to 45, and 1% in 2007 (State Planning Organization, 2010). North Cyprus is one of the small island economies which always run trade deficits. The main financial instrument of the trade deficit of North Cyprus is the foreign aids coming from Turkey. Two major businesses in North Cyprus are providing higher education on an international basis and tourism. There are eleven universities in North Cyprus and except one, all of them are privately owned. Almost 20 % of the population of the country are university students (State Planning Organization (SPO), 2013).

3.1 Knowledge Economy and North Cyprus

North Cyprus is a small developing country. There are 11 universities acting in North Cyprus and almost 20% of the population of the country are university students (SPO, 2013). On business level knowledge based activities are weak and insufficient number of professional in knowledge management is the weakness of the country. On the other hand, as a knowledge creator, North Cyprus has a potential with research and development (R&D) activities at the universities. Although the country has sufficient capacity of knowledge variables, 100% literacy rate, 81% higher education enrolment ratio.

OECD (1996) defines the knowledge economies are those which are directly based on the production and use of knowledge and information. North Cyprus economy mainly based on service sector, and human capital is a core factor of production in this sector. As a knowledge producer, North Cyprus has a chance to become a knowledge economy with its academic researchers (intellectual capital).

From 19th century the ability to invent and innovate, to create new knowledge and ideas that are then embodied in production processes and organisations, has served greatly to fuel development (Foray, 2006). North Cyprus economy has a potential with its ability to create new knowledge and ideas but the businesses in the country not ready to use this new knowledge and innovation in production process to create economic value. Economy has been acting as a knowledge and idea creator/ producer.

Cavusoglu (2014) analyzed the causal relationship between economic growth and knowledge economy variables in North Cyprus. She found that the knowledge economy variables; education and national intellectual capital have been playing an important role in the development of the North Cyprus economy in the last decade. Cavusoglu also emphasized the knowledge economy variables have a positive impact and economy's productivity level upgrading with increasing returns to scale is evidence that the economy of North Cyprus has a potential to be a knowledge economy. In order to be a knowledge economy, North Cyprus has an important advantage with its young and highly educated population. But the country is not able to transfer knowledge and information into the production process which is substantially necessary for productivity. North Cyprus also has other exogenous obstacles such as the existence of isolations, inadequate domestic manufacturing industry and lack of technology based production techniques (Cavusoglu & Sagsan, 2012).

4. Conclusion

Knowledge economy variables have positive impact on economic growth of North Cyprus. This positive effect is favourable for economic progress of the country and gives signals for change. In order to be a knowledge economy North Cyprus has some important problems which are also the barriers on being a knowledge economy, such as; the lack of awareness about information and knowledge, inadequate number of professional employees on knowledge management and the existence of isolations. North Cyprus should overcome those problems with;

- stable macroeconomic policies,
- support openness to trade and foreign direct investments,
- create awareness on the knowledge based economy on the governmental and individual level with using e-government,
- establish a ministry as soon as possible, related to information, knowledge and technology works in the country in cooperating with the other ministries.
- prepare policies for trademarks, patents and copyrights.

North Cyprus has a potential to be a knowledge economy with an appropriate plans and policies of government and universities together.

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