

Technological learning for entrepreneurial development (TL4ED) in the knowledge economy (KE): Case studies and lessons learned

Elias G. Carayannis^{a,*}, Denisa Popescu^b, Caroline Sipp^c, McDonald Stewart^d

^aDepartment of Management Science, School of Business and Public Management, George Washington University (GWU),

401G Monroe Hall, 2115 G Street NW, Washington, DC 20052, USA

^bThe World Bank and School of Business, GWU, Washington, DC, USA

^cInter-American Development Bank and School of Business, GWU, Washington, DC, USA

^dSchool of Business, GWU, Washington, DC, USA

Abstract

Innovative technologies are reshaping the global economic landscape, by improving speed and ease of communications and interaction among the various economic actors involved in the productive cycle.

In this paper, we discuss the role that technological learning and information and communication technologies (ICT) play in fostering entrepreneurial development in the Knowledge Economy and support our conceptual constructs with a series of case studies from developed, developing and transitioning economies.

We compare and contrast entrepreneurial initiatives, policies and practices and the experience of ways and means to promote learning and entrepreneurship such as global/local (glocal), real–virtual incubator networks (G-RVIN) and other real and virtual infra-structures and infra-technologies (such as Innovation Networks and Knowledge Clusters or INKC) and derive lessons learned for policy makers, practitioners and entrepreneurs.

© 2005 Elsevier Ltd. All rights reserved.

Keywords: Technological learning; Knowledge transfer; Absorptive capacity; Technological innovation; Real and virtual business incubator networks; Innovation networks; Knowledge clusters; Information and communication technologies (ICT); Small and medium enterprises (SME); New ventures; Intellectual property rights (IPRs); Knowledge economy; e-Development

1. Objectives of the paper and related areas of research

This paper addresses the roles that technological learning and information and communication technologies (ICT) play as catalysts and accelerators of knowledge creation, diffusion and use in the process of economic development.

The areas of research that this paper draws upon and contributes to are:

- (a) economic development
- (b) technological learning and knowledge transfer, absorption and use
- (c) technological innovation and entrepreneurship

Specifically, we provide a conceptual framework that may serve as an integrative bridge between macro- and micro-ideas and themes such as identifying optimal practices and pathways in economic development as a result of *a more functional congruence* of stages of economic development with technology and learning strategies for small and medium enterprise (SME) formation and growth (see Fig. 1).

The cases we use to corroborate our arguments are drawn from a number of countries and sectors in developing countries with a variety of profiles in terms of the degree, scope and scale of the role that knowledge modalities and processes play in the development enterprise. These cases serve to illustrate vectors, actors and crucibles of entrepreneurial development such as business incubators and networks thereof, technology and knowledge clusters and innovation networks including agglomerations of large/small, public/private entities and partnerships focused on knowledge creation, diffusion and use.

* Corresponding author. Tel.: +1 202 994 4062; fax: +1 202 994 4930.
E-mail address: caraye@gwu.edu (E.G. Carayannis).

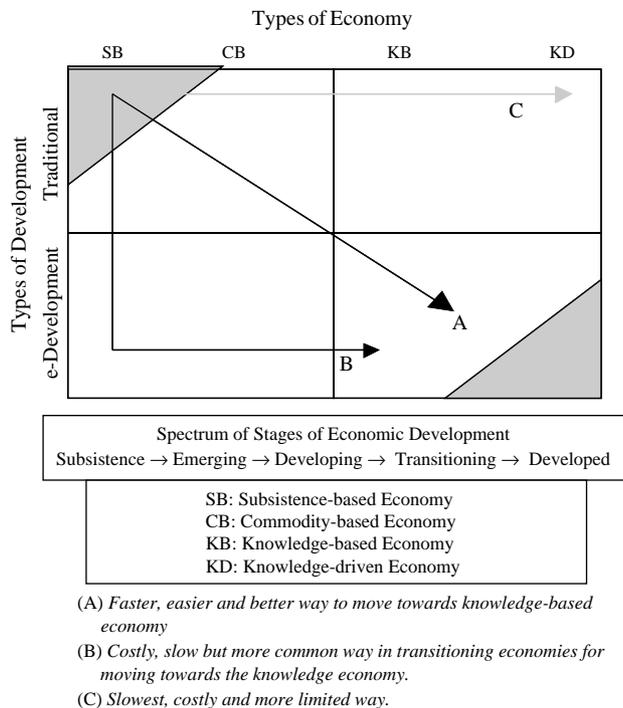


Fig. 1. eDevelopment pathways towards the knowledge economy destination. (Adapted from Carayannis and von Zedwitz, 2005c).

The central motivation for this paper is our belief that the ‘goodness of fit’ between the stage an economy is in and the development strategy adopted (including the use of technology and role of knowledge) determine the quality, speed, and sustainability of development (see Fig. 1). In this context, our efforts focus on learning from development experiences, in particular related to SME formation and growth, to develop a methodology for establishing an optimal match typology between development stage and development strategy.

This approach is partly inspired by the research findings of Robert Solow among others:

“Nobel laureate Robert Solow published his theory of growth in a couple of articles in 1956 and 1957. His conclusion surprised many, and still surprises many today: investment in machinery cannot be a source of growth in the long run. Solow argued that the only possible source of growth in the long run is technological change.” (Easterly, 2002: 47).

Another conceptual pillar and source of motivation for our efforts, is the work of Joseph Schumpeter on ‘creative destruction’ and technological change which was again listed as the pre-eminent driver of the process of sustainable economic growth “which incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. The process of

Creative Destruction is the essential fact about capitalism.” (Schumpeter, 1942: 82).

We consider entrepreneurial initiative as one of the main—if not the main—ways to drive technological change and catalyze and accelerate sustainable growth, hence our motivation to better learn from past entrepreneurial initiatives aimed towards fostering economic development.

2. Introduction and definition of terms

2.1. Introduction

There is ample and growing evidence that intangible resources such as knowledge, know-how and social capital will prove to be the coal, oil, and diamonds of the 21st century for developed, developing, and emerging economies alike.¹ Moreover, there are strong indications and emerging trends that there are qualitative and quantitative differences between the 20th and the 21st century drivers of economic growth:²

The world economy is in the midst of a profound transformation, spurred by globalization and supported by the rapid development of ICT (Information and Communication Technologies) that accelerates the transmission and use of information and knowledge. This powerful combination of forces is changing the way we live, and redefining the way companies do business in every economic sector.

We are currently going through a dynamic era for the economies of the world where a country can transition fast both upwards (see the case of Ireland) or downwards (see the case of Japan) and this trend has become increasingly more pronounced and in an accelerating fashion during the last decade. This new era is punctuated by:³

- Development of a service-based economy, with activities demanding intellectual content becoming more pervasive and decisive
- Increased emphasis on higher education and life-long learning to make effective use of the rapidly expanding knowledge base
- Massive investments in research and development, training, education, software, branding, marketing, logistics and similar services

¹ The Global Competitiveness Report 2001–2002 (WEF and Harvard CID, 2002).

² Toward e-Development in Asia and the Pacific: A Strategic Approach for Information and Communication Technology (ADB, 2001).

³ China and the Knowledge Economy: Seizing the 21st century (Dahlman and Aubert, 2001).

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات