

# Chapter 16

## Israel: A Knowledge Region Case Study

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### ABSTRACT

*This chapter focuses on knowledge based development in regions, based on Israel's experience. Israel, a small country in the Middle East, is a very unique case of a knowledge based region. The authors have extensively studied Israel as an innovative region in different contexts. Since 1998 they published three Israel Intellectual Capital Reports for the Israeli Government. During 2007 the authors led a study for the European Commission focused on regional innovation systems. This study has aimed to measure the effectiveness of participation in ICT (Information Communication Technology) EU projects on the EU innovation system at the regional level. Israel was selected as a regional best practice though it is a nation state and not a region since it is as small as a region, and since the authors had good relevant data from the previous IC reports and since Israel is consistently recognized as one of the most innovative countries in the world. The authors discovered that an Intellectual Capital audit is a powerful and useful framework to understand the effectiveness of regional innovation systems, offering the possibility for evidence-based future policies rather than retrospective performance analyses. This chapter demonstrates the case of Israel as a knowledge-based region, as well as critical success factors for regional innovation systems.*

### INTRODUCTION

Innovation leads to productivity and to increased economic growth. This assumption is based on the idea that innovation often relates to technology

improvements which enhance the efficiency and effectiveness of production and therefore, increase economic growth (Baumol, 2002). Innovation depends on creativity and on the generation and application of knowledge. Turning knowledge into commercial products demands creating "useful knowledge" that can be disseminated and applied

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by entrepreneurs (Mokyr 2002; Audretsch & Keilbach, 2004).

Today, the global economies are in a phase of transitioning into a knowledge-based structure, where innovation leads to an all-encompassing change in the sectoral composition (Machlup 1962). Therefore, the diffusion of knowledge is more than the transfer of ideas, patents or licenses from person, firms, or departments to other persons, firms, or departments. It often depends on learning and interacting in networks (internal to multi-locational enterprise, external among firms) and on “channels of diffusion” (Pred, 1976). This process is embedded in the social and institutional structure of the region/city/organization.

Castelles and Hall (1994) argue that Regions are being profoundly modified in their structure, and conditioned in their growth dynamic, by the interplay of three major interrelated, historic processes: the first is a technological revolution based on information technologies. The second process is the formation of a global economy that works as a unit in a world wide space for capital management, labor, technology and markets. The third process is the emergence of a new form of economic production and management characterized by the fact that productivity and competitiveness are increasingly based on the generation and distribution of new knowledge. They remark that no region can prosper without some level of linkage to source of innovation and production.

The OECD(1996) defines a Knowledge-Based Economy as one in which the production, distribution, and use of knowledge are the main drivers of growth, wealth-creation, and employment for all industries. In that regard many authors identify information and communication technology (ICT) and globalization as key drivers of knowledge. The European Commission recognized this, and in the recent years has encouraged organizations from different regions in Europe to participate in ICT projects funded through its Framework Programs. These projects have been recognized as

a very important and useful factor to increase the innovation dynamics in the EU regions. Because of its reputation as an innovative country, Israel was invited to join these Framework Programs as a full partner and Israeli organizations participate in these projects in a high rate.

Israel is an interesting case of a knowledge-based region because of it's unique story of accomplishments of innovative achievements within a very short period of existence (only 60 years). What are the key success factors? How can we evaluate the intangible assets of a country? What can be learned from an innovative region? In this chapter we will try to answer these questions and to apply the findings to other regions and countries.

## **KNOWLEDGE MEASUREMENT – THE INTELLECTUAL CAPITAL MODEL**

The knowledge in organizations, regions, countries is base on two kinds of deliverables: tangible and intangible. Intangible deliverables, in this sense include all unpaid or non-contractual activities that make things work smoothly and help build relationships. In contrast, tangible deliverables include anything that is contracted, mandated or expected by the recipient as part of the delivery of product, or service. Tangibles typically are directly connected with generating and delivering on revenue or funding. One of the most challenging issues at the organizational network and regional levels today is describing and monitoring the role of intangibles in value creation. At the organizational level pioneers in intellectual capital have demonstrated that intervention and actions must be understood in both tangible and intangible terms. (Sveiby 1997, Edvinsson and Malone 1997, Wallman and Blair 2000, Eccles et al 2001). Intangible assets include brand, employee know-how and competency, the effectiveness of the organization's workgroups and structure,

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