

## Chapter 14

# ICT Adoption, Capabilities Development, and Innovation Processes in Argentina: An Approach from Employment and Knowledge Management

**Marta Novick**

*Ministry of Labor, Employment, and Social Security, Argentina*

**Sebastian Rotondo**

*Ministry of Labor, Employment, and Social Security, Argentina*

**Gerardo Breard**

*Ministry of Labor, Employment, and Social Security, Argentina*

### ABSTRACT

*The discussion on innovation and the adoption of new Information and Communication Technologies (ICT) and their impact on economic growth and development have flared up in the past few years. This debate has become increasingly relevant in emerging countries like Argentina, which, in spite of high economic growth rates in the last decade, has been facing the challenge of quality employment creation. This chapter analyzes the impact of the ICT diffusion process in Argentine companies from a firm-level employment, innovation capabilities development, and knowledge management approach. Recent findings support the linkage between different firms' ICT adoption patterns and the development of innovation capabilities, employment dimensions, and knowledge management practices. These results provide evidence to think and develop new productive and technological policies.*

## INTRODUCTION

During the last few decades, the discussion on the role of technological change and its impacts on economic growth and development have gained more and more relevance, not only in academic debate but also wherever political decision-making takes place. This debate was revitalized in some way due to the emergence of a technological revolution, which has at its core information and communication technologies (ICT) (Castells, 1997; Denning and Metcalfe, 1997; Castaldi and Dosi, 2011). This revolution has not only affected the productive processes but also has influenced multiple aspects of society and daily life.

At the same time, with the emergence of this “information” and “knowledge society”, phenomena such as job insecurity, unemployment and low salaries significantly affect part of the working population, mainly in the so called emerging countries. Then, is it possible to talk about progress in one dimension without a co-evolution in the other? This dynamics, expressed in segmented labor markets, is not only evident in different growing rates (at country, region and productive structure level), but has also profound consequences for inclusion processes and income distribution (Cimoli and Primi, 2008).

Changing this situation towards highly integrated economic and social processes implies, to some extent, a return to a pattern of development that integrates the economic dimensions with the political and social ones.

According to these questions, this document proposes to present and address results of a research program on the use and diffusion of ICT in the Argentine productive structure, coordinated together with the Ministry of Labor, Employment and Social Security and the Economic Commission for Latin America and the Caribbean (ECLAC), proposing an approach from the perspective of the development of innovative capabilities and employment. In other words, the debate presented in this article emerged as part of the search for

the opening of the “black box” of information and communication technologies. Also, the survey tried to identify different ICT adoption patterns, the assessment of the role played when it comes to their productive and innovative dynamics and how it affects in the employment dimensions.

This paper is based on a set of different studies whose source of information is a survey on the use and diffusion of ICT conducted in around 1,100 companies from the manufacturing, trade and service sectors in the main urban areas of the country during 2010.<sup>1</sup> On the other hand, this document outlines a set of results obtained from in-depth interviews in companies chosen, for their highly complex ICT adoption processes<sup>2</sup>.

The first section addresses different conceptual aspects related to innovative processes, business ICT adoption and the way these processes impact on employment. The second section presents ICT adoption patterns in Argentina and their relationship with innovation capabilities in business. Then, the impact of the ICT is analyzed considering employment dynamics. The fourth section highlights some aspects concerning the linkage between ICT diffusion patterns and employment dimensions. Finally, the main conclusions of the study are presented.

## 1. CONCEPTUAL FRAMEWORK

There is some consensus about the fact that, in the current context, the economic development and production dynamics depend on the adoption and diffusion of innovations and knowledge, which are factors fostering transformation and renewal of the productive system. That is, the accumulation of capital is explained as the result of a technology and knowledge build-up process (Ocampo 2008; Pérez 2008). But, *what does it mean to be innovative in terms of employment generation? What kind of linkage exists between business' behaviors and the capability of the productive system to create more jobs in terms of quantity and quality?*

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