

# Chapter 14

## Digital Technologies for Teaching and Learning at the BoP: A Managerial Perspective

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### ABSTRACT

*This chapter focuses on digital technologies for teaching and learning/ICT for education. The topic under investigation was approached under a managerial perspective with the final aim to identify and describe the main factors that enable and/or inhibit successful implementation of digital technologies for teaching and learning at the bottom of the pyramid (BoP). First of all, a comprehensive and system-ized literature review has been performed outlining/identifying these factors. Then, to robustly grasp the findings, a deeper assessment through a multiple descriptive case study analysis on the key factors behind a successful implementation of ICTs for education at the BoP level has been carried out.*

### INTRODUCTION

Digital technologies are assuming a disruptive effect in redefining how economy and society works (Autio, 2017; Autio et al., 2018). The Covid-19 pandemic crisis has intensified the debate around the so called “digital economy”, and the promise of “digital transformation” in changing how value is created, delivered and captured in society and economy. Moreover, the Covid-19 reminds us also about the so-

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called “digital divide” (Norris, 2001; Warschauer, 2004). The latter, refers to the physical availability/ access to computers and connectivity (digital/ICT infrastructures) as well as to the complementary resources providing people with the use of technologies and related benefits, thus supporting social inclusion (Warschauer, 2004). International organizations, such as the World Bank, the UNDP and the UNESCO, have continuously revealed promising hope on the impact of ICT in overcoming disparities around the world, especially when referring to inequalities in accessing technologies for improving education opportunities. More precisely, United Nations (UN) member states targeted to achieve by 2015 – among the others - the second goal of the UN Millennium Development Goals (MDGs), “*achieve universal primary education*”; at the same time also the “Education For All” (EFA) initiative was created by UNESCO members, aiming at improving learning opportunities for children, youth and adults, and therefore also contributing to the pursuit of MDG2. Nowadays, the call to action to ensure “quality education” is under the fourth UN Sustainable Goal (SDGs).

The chapter focuses on ICTs for education (ICT4E), which are considered as relevant for promoting learning. Though ICT4E, digital technologies as well as the stronger commitment of nations in ensuring the diffusion of quality education have acquired an increasing importance in recent years, there is not a clear-cut picture in the literature on the specific factors that may affect the successful implementation of these technologies (Cabrol and Severin, 2010). More specifically, this chapter aims at contributing to the debate around “digital technologies for teaching and learning” at the Bottom of the Pyramid (BoP) from a managerial perspective, i.e., *with the final aim to identify and describe the main factors that enable and/or inhibit successful implementation of digital technologies for teaching and learning at the Bottom of the Pyramid (BoP)*. The concept of the BoP was first introduced by Prahalad in 2004, thus identifying communities and populations with an almost null income and living in resource constrained settings. These constraints avoid the achievement of the main development goals concerning the access to education and healthcare, poverty reduction and the life expectancy (Wilkinson and Pickett, 2009).

The remainder of the Chapter is structured as follows. First, we present the systematic literature review approach adopted. Second, we discuss results on the main factors that enable and/or inhibit successful implementation of ICTs for education at the BoP level. Thirdly, a multiple descriptive case study analysis focused on ICTs4E has been carried to add robustness to our research findings. Lastly, concluding remarks and suggestions for future research directions complete the chapter.

## **DIGITAL TECHNOLOGIES FOR TEACHING AND LEARNING AT THE BOP: A SYSTEMATIC LITERATURE REVIEW APPROACH**

As previously pointed out, our aim is to devote a deeper assessment in understanding the specific factors that enable and/or inhibit the successful implementation of digital technologies for teaching and learning at the BoP. Accordingly, a wide literature review, adopting a multistep systematic approach (Tranfield et al., 2003), has been performed to provide a comprehensive framework able to shed new light on the proposed issue and to provide guidance for future research directions. Thus, our purpose was threefold: 1) to investigate the state of the art (and the progress) of a specific stream of research by analyzing authors’ contributions to a specific topic; 2) to identify factors that enable and/or hinder ICTs implementation and to develop a framework as well; 3) and, to provide future research directions.

In order to perform the review process, the authors, basing on prior experience and preliminary assessment of the existing literature, identified a broad range of keywords such as: “inclusive innovation”,

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