The Role of Information and Communications Technology (ICT) in Enhancing Service Sector Productivity in Palestine: An International Perspective

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ABSTRACT

This article discusses the productivity of the Information and Communication Technology (ICT) sector using cross-sectional data from 793 service firms in Palestine. The authors have examined the impact of ICT growth on service sector productivity in Palestine using a set of indicators for ICT including internet usage, e-commerce, networks, websites, and use of “smart” phones. They find that using ICT (mainly Internet) in commerce (e-commerce) is one of the most important levers of labor productivity among service firms. Service firms that are less ICT-intensive are less productive than more ICT-intensive firms; moreover, the use of mobile phones for services other than send-and-receive calls, highly improves the labor productivity of service firms. Conversely, using a website and computer network does not positively affect the labor productivity. Regarding geographical differences in labor productivity, the analysis shows that firms in Jerusalem are characterized by higher productivity than firms in the West Bank, while firms in Gaza have a lower productivity compared to firms in the West Bank.

KEYWORDS
E-Commerce, ICT, Internet Usage, Productivity, Service Sector

1. INTRODUCTION

Information and Communication Technology (ICT) is a vital engine for economic growth in developed economies. ICT supports economic development through productivity enhancement, innovation and trade development through new delivery processes. Moreover, ICT is expected to contribute to economic recovery by providing relevant solutions to the current world economic crisis.

In most developing countries, ICT as a stand-alone economic sector is still under-developed compared to that in countries that are part of the knowledge economy. Both the public and private sectors in developing economies are still consumers of technologies developed abroad, and not ICT producers and innovators. However, over the past 20 years some developing countries such as India,
China, Malaysia and Turkey have improved their capacity to use the ICT sector as an important tool for economic development in a way that sometimes exceeded the capacity of developed countries. The impact of ICT in developing countries depends on the synergy between ICT investment and long-term economic growth and stability. Moreover, ICT productivity depends on the human capital development related to ICT usage skills. The adequacy of ICT investment and the efficiency of human capital were behind the significant improvement in the quality of life for large segments of people in countries like Vietnam and India.

Studies at the firm level provide circumstantial evidence that ICT implementation has positively affected growth in productivity (Strassmann, 1985, 1990; Bender, 1986; Franke, 1987; Gargallo-Castel and Galve-Gorriz, 2012). Despite the fact that the service sector is more ICT-intensive than the manufacturing sector (OECD, 2004), evidence of ICT productivity from the service sector of developing countries is rare (UNCTAD, 2008). Although increasing over the last few years, the limited number of studies on this issue mainly addresses countries characterized by rapid ICT growth, like China, India, Malaysia and Turkey. Regarding other underdeveloped countries, the relationship between ICT on the one hand, and productivity and economic growth on the other, need more attention by researchers and policy makers.

This paper addresses the relationship between ICT productivity and economic growth in the case of an under-developed economy – Palestine - where the economy is heavily affected by the colonial measures of a military occupation. Palestine was forced to split into three distinct areas: namely, West Bank, Gaza, and Jerusalem. Despite the relative autonomy in economic decisions Palestine gained in 1993, this autonomy is very limited when it comes to trade between the three areas. Other restrictive measures apply to foreign trade and to the use of third and fourth generations of mobile services, to mention a few.

In the course of the past 20 years, Palestine has experienced high growth in its service sector in comparison with manufacturing and agriculture sectors. The contribution of the service sector to GDP grew steadily, shifting from 50% in 1995 to 60% in 2009, and it now employs more than 65% of the labor force. However, the Palestinian economy has experienced weak growth in productivity in the service sector compared to the manufacturing sector, which negatively influences the overall productivity growth of the Palestinian economy (see Figure 1, below).

In the last decade, Palestine has experienced a particular and continuing increase in the utilization of ICT at the firm level, especially in terms of computers, cellular subscriptions, Internet Wi-Fi, and networks. This is mainly due to the fast growth of the ICT sector in Palestine during these years. The productivity of the service sectors, which use more ICT, is likely to grow higher compared to sectors which are low ICT-intensive (Morrar and Gallouj, 2016).

In this work, the relationship between ICT and productivity growth of service firms is investigated in an original context. Palestine is a country where data are lacking. The three areas of the country (West Bank, Gaza, and Jerusalem) have their own political and economic conditions, and have to comply with colonial and military restrictions. ICT can help to connect the different areas and bypass many of these restrictions, especially for service businesses. The remainder of this paper contains the following sections: Section two reviews the literature devoted to the relationship between ICT and economic performance at different levels of analysis: the macroeconomic level, industrial level, and firm level. In section three, we present statistics about the ICT sector in Palestine and its applications in the service sector. Section four discusses the methodology used and the data. In section five, results are presented and discussed. The last section concludes the study.

2. RESEARCH OBJECTIVE AND HYPOTHESES

Table 1 below summarises the research objective, questions and hypotheses. The main objective of this research is to measure the impact of ICT tools on the productivity of service firms. To answer this question, we introduce a set of hypotheses that we will test using quantitative methods. Some of these hypotheses are related with ICT usage while the others are control variables.
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