

Chapter 2

Entrepreneurs and Technology: Use and Access of Technology for Idea Generation

Erastus Ndinguri

Framingham State University, USA

Krisanna Machtmes

Ohio University, USA

Ryan J. Machtmes

University of Minnesota, USA

Jessica I. Hill

Holyoke Community College, USA

ABSTRACT

Technology disruption as well as changing economies have brought new opportunities and threats to the global entrepreneurial models and transformed societies all over the world. Entrepreneurship as a dynamic phenomenon is being analyzed as a tool for bearing the risk of market uncertainty, innovation, competition, and restructuring, and generating new knowledge. Despite continued analysis of the entrepreneur phenomena, how emerging technologies influence generation of business ideas and business formation is still unexplored. The aim of this chapter is to explore this relationship by analyzing women entrepreneurs. Specifically, the authors ask the question, Does the use and access of emerging technology trigger generation of business ideas which leads to business formation? Also, do demographic characteristics of entrepreneurs play a role in knowing and using emerging technology?

INTRODUCTION

Entrepreneurship has been for many years identified as a significant part of the United States' economy (Carland, Boulton, & Carland, 1984; Lamoreaux, 2010; Kritikos, 2014). A call for increased research in entrepreneurship dates to the Schumpeter's era where he urged collaborative effort between historians and economic theorists in providing empirical research on how entrepreneurship has shaped the different

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economic sectors like firms, industries and the notion of modern capitalism (Jones & Wadhwani, 2006; Schumpeter, 1954). Today research has shown that entrepreneurship is important in building family wealth (Quadrini, 1999), building competitive advantage for firms in technologically intensive industries (Newbert, Gopalakrishnan & Kirchhoff, 2008), as well as development of educational programs that foster entrepreneurial ideas (Solomon, Duffy & Tarabishy, 2002). Variables critical for the success of new entrepreneurial ventures have also been studied including: market and product strategy, entrepreneur characteristics, financial aspects, human capital, origin of the start-up, technology and production aspects, and prevailing social and environmental variables (Serarols-Tarrés, Padilla-Meléndez, & Aguila-Obra, 2006). It is estimated that 20 to 40 percent of the overall labor productivity growth in the eight major industrialized countries can be directly attributed to entrepreneurship (Berghann, Moen, Roed, & Skogstrom, 2011). Research also indicates that starting new ventures leads, after some lag, to higher levels of productivity, a relationship reminiscent of Schumpeterian creative destruction models (Holtz-Eakin & Kao, 2003). Today, technology, innovation and entrepreneurship are crucial to the nation's economic revival and competitiveness in the global marketplace (Sargeant & Moutray, 2010). In the global stage, entrepreneurs perform different functions such as bearing the risk of market uncertainty, innovation, competition and restructuring, and generating new knowledge for the economy (Sternberg & Wennekers, 2005). Additionally, economic development and entrepreneurship is becoming intertwined with both positive and negative influences (Toma, Grigore, & Marinescu, 2014). Because of these contributions to economies, most governments around the world are creating policies that govern and boost entrepreneurship at all levels (Gilbert, Audretsch, & McDougall, 2004). As the area of entrepreneurship has grown the number of women entrepreneurs has increased as well. In the United States, the number of women entrepreneurs increased over 50% by 2012 which is twice the national average (20%) (Womenable, 2015). This increase has not waned as shown by data between 2007 and 2016; the number of women-owned firms increased by 45%, compared to just a 9% increase among all businesses. (Womenable, 2016). On the global scale, higher Total Entrepreneurial Activity (TEA) levels can be seen among women (Kelley, Brush, Greene & Litovsky, 2013). In Sub-Saharan Africa and Latin America/Caribbean, Total Entrepreneurial Activity for women entrepreneurship is 27% and 15%, respectively; while Asia and Europe shows a 4% and 5% rise, respectively (Kelley et al., 2013). As the number of women entrepreneurs has significantly increased it is necessary to understand their participation in the field of entrepreneurship. Growth in entrepreneurship has coincided with the growth in the use of technology. For an entrepreneur to be competitive in this new technology driven economy, they have to be in a position to exploit new technologies that will form the basis of tomorrow's global information networks and ideas built on e-commerce (Kowalczyk, Ulieru & Unland, 2003). The first contact in business ideas and motivation to start a business may begin with the use of technologies such as the internet, social media and/or smartphones. By 2012, there were 74.4% American households that had internet, today 84% of American adults use the internet (File & Ryan, 2014; Perrin & Duggan, 2015). As the use of technology grows globally, coupled with the ever increasing role of women entrepreneurs, (Ndubisi, 2007) research on how technology use and entrepreneurial activity interact is necessary. Previous studies have explored both the influence that the external environment has on motivating women entrepreneurial startup businesses and reasons why a business fails or succeeds (Aldrich, 1999; Sandberg, 1986). However, research on how environmental factors such as emerging technology shape the decisions of women entrepreneurs before the business starts remain unknown. To explore this, the study looks at the use of emerging technology as one of the external environmental factors that influences the decision to start a business. Emerging technologies in this study refers to high performance computing platforms such as the World Wide Web, virtual real-

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