Chapter 21
Design Thinking Perspective in Entrepreneurship Education

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ABSTRACT
To stimulate the exploitation of entrepreneurial opportunities in a circular economy, there is a growing need for educators, especially in the context of universities, to make a paradigm shift from conventional entrepreneurship teaching methodologies to design thinking. As such, the call for a design-based entrepreneurship curriculum has attracted the interests of scholars, researchers, educators, and policymakers in recent years. Unfortunately, little is known about how design thinking processes and tools are being incorporated into entrepreneurship education. Consequently, this chapter captures in detail the worldwide practices and controversies mainly associated with entrepreneurship education from a design thinking standpoint, reviews entrepreneurship education in relation to entrepreneurship development in a circular economy, captures perceptions of academics about design-based entrepreneurship education, proposes recommendations to policymakers and practitioners, and identifies research gaps for further studies.

INTRODUCTION
In recent years, entrepreneurship education as a phenomenon has become a central topic in the face of a complex, dynamic and chaotic environment. This has pressurized universities to be accountable for churning out entrepreneurial graduates who can increasingly seize entrepreneurial opportunities in a circular economy. Despite the fact that producing entrepreneurial graduates is now a strategic priority of many universities around the world, entrepreneurship education that is currently offered by many universities is being often criticized for being too managerial-oriented and rational (Daniel, 2016). With this in mind, it appears that design thinking can be a powerful tool for attaining business goals and exploiting untapped entrepreneurial opportunities. Worryingly, little is known about how we can learn from principles of design thinking so as to enrich entrepreneurship education scholarship (Huq & Gilbert, 2017).

The importance of entrepreneurship education has gained much prominence in the current stock of knowledge on entrepreneurship over the last two decades. With the adoption of entrepreneurship
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It is common knowledge that economic growth can be accelerated (McGuigan, 2016; Rauch & Hulsink, 2015). Despite the calls for entrepreneurship education in higher education, it is necessary to mention that the construct of entrepreneurship education has generated much scholarly debate when it comes to fostering entrepreneurial behavior. Within this context, entrepreneurship education that is currently offered by many universities is being often criticized for being too managerial-oriented and rational (Daniel, 2016; Pittaway & Edwards, 2012). As such, it appears that the incorporation of design thinking into the entrepreneurship curriculum is necessary for attaining business goals and exploiting untapped entrepreneurial opportunities in the current uncertain environment (Huber, Peisl, Gedeon, Brodie, & Sailer, 2016; Val et al., 2017). This means that a need emerges for a deeper understanding of the interaction between entrepreneurship education and design thinking principles in an attempt to advance the entrepreneurship scholarship. This is supported by the fact that the design thinking approach acknowledges the inherent intricacy of the 21st century and embraces the open-ended, ambiguous, wicked and open-ended problems associated with the current era (Conklin, 2005; Liedtka & Ogilvie, 2014; Stovang & Nielsen, 2015).

Given the popularity and importance of design thinking, it is not surprising to witness the widespread application of design thinking tenets and tools outside the context of the industry (Huq & Gilbert, 2017; Neck & Greene, 2011). This is in harmony with the view of Stewart (2011) who stressed that there is a paradigm shift from designing things that are material in nature to immaterial things like systems and services. With this in mind, several academics from the management field have suggested that the design thinking lens should receive much attention in the education and management practice (Brown, 2009; Liedtka & Ogilvie, 2014; Razzouk & Shute, 2012; Watson, 2015). In fact, with respect to entrepreneurship education, there is growing literature that views the design thinking approach as a valuable ingredient when it comes to curriculum development in an effort to stimulate creativity, innovation, collaboration and problem-solving in a rapidly-changing and complex environment.

It is imperative at this juncture to mention that different ways can be used by educators to teach entrepreneurship courses. More strikingly, a survey of entrepreneurship education literature revealed that “about”, “for”, and “through” are the main approaches linked to the teaching of entrepreneurship (Lackéus, 2015; Pittaway & Edwards, 2012). Nonetheless, most of the entrepreneurship education provided by institutions of higher education has been found to be based on “about” approach which has been linked to traditional pedagogy that does not promote problem-centered approach and active student engagement in learning activities and projects (Mwasalwiba, 2010; Stovang & Nielsen, 2015). In order to address the challenges associated with the traditional pedagogy of entrepreneurship, it appears as the right time for entrepreneurship educators to effectively and efficiently use the design thinking methodologies (Stovang & Nielsen, 2015). However, to the best knowledge of the author, little is known about the interaction between entrepreneurship education and design thinking principles at the university level especially in the context of developing countries.

In light of the above insightful discussion, there is an emerged need to conduct empirical research to cover this knowledge gap within the mainstream entrepreneurship literature. Notably, the current study employed an exploratory research design. The chapter’s main objectives are to capture how academics perceive entrepreneurship education from a design thinking perspective and capture the infrastructure support that is deemed necessary to effectively incorporate a design-thinking approach into entrepreneurship course. Admittedly, this research gathers empirical evidence to inform policymakers and practitioners.