

## Chapter 6

# Innovation, Entrepreneurship, and Sustainability for ICT Students Towards the Post-COVID-19 Era

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### ABSTRACT

*The purpose of the study reported on in this chapter was to develop a structural equation model (SEM) of the drivers of innovation for information and communication technology (ICT) students. Against a background of research on entrepreneurship and sustainability towards the post-COVID-19 era, factors had previously been identified, which promoted innovation among employees. A literature review, however, also revealed issues, controversies, problems, and challenges related to the effects of knowledge sharing behavior (KSB), self-regulated learning (SRL), and course design characteristics (CDCs) on developing innovative behavior (IB) among ICT students at universities. Solutions and recommendations are provided for managers involved at universities on leveraging attributes of KSB, SRL and CDCs to sustainably trigger innovation and entrepreneurship among ICT students towards the post-COVID-19 era. Future research directions are also considered. In conclusion, a discussion of the overall coverage of the chapter and concluding remarks are provided.*

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## **INTRODUCTION**

In order to describe the general perspective of the chapter, the importance of Information and Communication Technologies (ICTs) to business and organizations in general, which have been witnessed over the last few years, needs to be acknowledged. New business models, marketing channels and markets are reached using ICTs. ICTs act as a daily support and, many times, a way to develop creativity and innovation, which is expected to remain important in terms of renewed efforts in the post-COVID-19 pandemic era. Not only are most organizations currently dependent on Information Systems (IS)/ICT in order to support their business strategies, but research on information systems and technology-supported teaching are also opening new worlds for learning to children with autism spectrum disorders (Goosen, 2019b; Goosen, 2019c). IS/ICT can further promote the implementation of strategies and enhance the optimization of the various aspects of business. Not only in market enterprises, but also in social organizations, the digital economy and ICTs are important tools that can empower social entrepreneurship initiatives to develop, fund and implement new and innovative solutions to social, cultural and environmental problems. Digitalization is more than just a trend and ICTs are common and influential to the wellbeing of millions of people virtually everywhere. The pandemic introduced disruptions to everyday life, in terms of, for example, ways of working, learning and socializing. These challenges bring difficulties to a number of sectors, such as tourism, aviation, etc., but also present a set of opportunities, with new ways to sell, market, teach and learn, etc. Maybe the world will come to a new balance after the pandemic, and digital transformation could also improve sustainability, due the possibility of reducing negative impacts on the environment, as well as new solutions in terms of social and economic opportunities for organizations.

Although universities have developed strategies to stimulate students' innovation, no measure exists of the innovativeness of students undertaking undergraduate ICT studies, and very little research is available that simultaneously explores the determinants of undergraduate students' Innovative Behavior (IB). The study reported on in this chapter aimed to plug this literature gap by examining how Self-Regulated Learning (SRL) and Course Design Characteristics (CDCs) act as antecedents of IB, via the mediating action of Knowledge Sharing Behavior (KSB). The solutions obtained were summated in a KSB-IB Structural Equation Model (SEM), and supported all hypotheses and the positive effect of CDCs in fostering ICT students' IB. The solutions further suggested an indirect relationship between SRL and IB, fully mediated by KSB. The indirect relationship between CDCs and IB was significantly and fully mediated by KSB. Finally, the solutions also revealed that CDCs and SRL acted as drivers of KSB and IB among undergraduate ICT students.

## **Target Audience**

This chapter is mainly intended to support an academic audience (academics, university teachers, researchers and post-graduate students – at both Master and Doctorate levels). In addition, this chapter could be of benefit to public and private institutions, developers and researchers in fields with regard to entrepreneurship and business management, as well as professionals related to these sectors.

## **Objectives**

There is currently extensive literature addressing topics regarding innovation, entrepreneurship, sustainability and ICTs in organizational contexts. However, the extant research is too focused on each of these

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