


# Chapter 40

## Knowledge Sharing Mediating Information Technology Student Innovation

**James Kiarie Ngugi**

*University of South Africa, South Africa*

**Leila Goosen**

 <https://orcid.org/0000-0003-4948-2699>

*University of South Africa, South Africa*

### ABSTRACT

*Research has identified factors promoting innovative behavior (IB) among employees in organizations. However, the effect of knowledge sharing behavior (KSB), self-regulated learning (SRL), and course design characteristics (CDCs) in developing IB among information technology (IT) students in universities is not well understood. The purpose of the study was developing a structural equation model (SEM) of the drivers of IB among IT students. As very little research simultaneously explores the determinants of undergraduate students' IB, one of the study objectives is to plug the literature gap by examining how SRL and CDCs act as antecedents of IB, via the mediating action of KSB. The findings are summated in a KSB-IB SEM. The results largely support all the hypotheses and suggest a significant indirect relationship between SRL and IB, fully mediated by KSB. The indirect relationship between CDCs and IB was significantly and fully mediated by KSB. The results of the study reveal that both CDCs and SRL act as drivers of KSB and IB among IT students.*

### INTRODUCTION

Some studies draw attention to the individual and contextual conditions under which the promotion of employees' Innovative Behavior (IB) are likely to take place (e.g. Maritz et al. (2014)). Although innovative behavior has been associated with Self-Regulated Learning (SRL), the effect of knowledge sharing, SRL and Course Design Characteristics (CDCs) in the development of innovative behavior among

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Information Technology (IT) students in universities is not well understood. To answer this research gap, this study developed a Structural Equation Model (SEM) of the individual and contextual drivers of individual innovative behavior among IT students.

At the end of a university program, “graduate outcomes or competences could be widely defined as the final product or result of the whole university experience, and innovation is one of those expected graduate outcomes” (Martín, Potočník, & Frás, 2015, p. 2).

In this context, Martín et al. (2015) explored the antecedents of innovation among university students, highlighting autonomy and cognitive demands as significant drivers of innovation. Although universities have thus developed strategies to stimulate students’ innovative competencies, to date no measure exists of the innovativeness of students undertaking undergraduate studies. Further, as very little research exists exploring the individual and contextual determinants of undergraduate students’ innovative behavior, this field could greatly benefit from an expansion of coverage into all aspects of organizational research. One of this study’s aims is therefore to plug the mentioned literature gap by examining how self-regulated learning and course design characteristics act as significant individual and contextual antecedents of innovative behavior, via the mediating action of Knowledge Sharing Behavior (KSB).

This study also offers insights related to key topics, such as organizational structure, strategic leadership and IT management. It will be comprised of content that highlights major breakthroughs, discoveries and authoritative research results, which, when used in partnership with the wider community, could ensure shared knowledge and create extended opportunities pertaining to aspects of organizational growth and development (Goosen & Van der Merwe, 2015).

The subjects of the cross-sectional, quantitative, explanatory survey were 248 undergraduate students enrolled in Information Systems (IS) and Technology related programs from seven (7) public universities in Kenya. Data was collected through a questionnaire. A 2,000-bootstrap sample was generated to test the standardized total, direct and indirect effects.

The findings were summated in a knowledge sharing-innovative behavior structural equation model, with the aid of Analysis of Moment Structures (AMOS) software. The results largely supported the objectives (see below). The findings also lent support to the positive effect of course design characteristics in fostering Information Technology students’ innovative behavior. The results further suggested a significant indirect relationship between self-regulated learning and innovative behavior, that is fully mediated by knowledge sharing behavior. Secondly, the indirect relationship between course design characteristics and innovative behavior was significantly and fully mediated by knowledge sharing behavior. The results of the study revealed that both course design characteristics and self-regulated learning act as significant drivers of knowledge sharing and innovative behavior among undergraduate Information Technology students.

This chapter provides key recommendations for researchers, educators, students and professionals, on how to leverage the attributes of self-regulated learning and course design characteristics at individual as well as at contextual level, triggering innovative behavior.

In light of the undeniable rapid acceleration of both human-centered and technology-oriented advancements, as well as the general perspective of the chapter described, the objectives of this chapter will specifically be stated to determine to what extent (if any):

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