ABSTRACT

Author: Liu, Jucun. PhD Institution: Purdue University Degree Received: May 2020

Title: A System Perspective on Business Models.

Committee Chair: Dr. Joseph V. Sinfield

The business model concept was first introduced in the early 1990s alongside the boom of the Internet. Although the Internet bubble has burst, the popularity of the business model concept continues to increase. It is being used more and more often by not just people in business management, but also the general population, as people, for example, talk about a successful start-up. Although it is a popular buzz word today, the business model concept itself is lacking in theoretical roots. Thus a gap exists regarding the business model concept. Its usefulness in practice has been proven in numerous business cases, yet academia remains divided on the definition and appropriate means to use the concept. A thorough literature review reveals that the concept of a business model has been framed in various ways, ranging from the strategic logic of a company to the activities a company performs. This misalignment creates barriers for the advancement of this body of knowledge in both research and practice. Researchers have thus called for a clearer and more operational definition of the concept.

With this goal in mind, this qualitative study sought to advance business model understanding by proposing a business model conceptualization that:

- 1) Is robust in its theoretical roots and informs the critical characteristics of a business model,
- 2) Highlights potential means to resolve the debate over the definition of a business model through examination of its broad range of conceptualizations and uses, and,
- 3) Guides business model design through a robust exploration of design options for users interested in business model development.

To achieve this goal, a three-stream study was conducted.

The first stream focused on creating a business model construct that is rooted in theory and on proposing a related business model framework. These objectives were achieved through

a combination of scholarship of integration and thematic analysis. A resilient complex adaptive system (RCAS) perspective was taken to proactively construct a business model conceptualization. To fully understand an RCAS, a literature review was carried out on the notion of systems. Theories from general system theory (GST) to an RCAS were examined to form a full understanding of these foundational concepts. The resulting construct was employed as the underlying structure of a business model framework. To create a set of functions that a business model should include, an extensive literature review was conducted on 150 business model research articles. Thematic analysis was employed to analyze words and phrases used by authors to describe the critical components of a business model, and then aggregate these views into a set of mutually supportive functions that represent the essence of a business model. Eight functions, termed "elemental functions", centered on value were defined. These elemental functions are able to capture all components identified in the studied literature and collectively display required RCAS characteristics. This RCAS business model framework lays the foundation for a unified landscape of business model conceptualization and acts as a potential universal language in this body of knowledge. The developed framework also serves as the basis for the subsequent lines of work detailed below, and grounds both further research and application. The second stream is based on the RCAS framework and draws on its ability to facilitate abstraction. The work stream focuses on outlining a knowledge space for business models utilizing three variables that are closely tied to abstraction in the business model context, namely: elemental functions, purposes, and levels of abstraction. These variables were identified as critical factors influencing business model abstraction from both a literature perspective and observations. A thematic analysis was conducted on the same 150 articles as in the first stream to extract the potential states of these variables. Eleven purposes and five levels of abstraction were identified; and these two variables act as the axes of the knowledge space. Elemental functions were incorporated in the knowledge space to illustrate the frequency with which each elemental function is used for specific purposes and specific levels of abstraction. This knowledge space, herein termed the business model knowledge map, can be used to position existing work and identify future opportunities for research. The 150 articles were positioned in this space to outline a grander picture of the business model concept. It highlights that previous authors in the business model area have worked on abstractions of the same concept while unintentionally overlooking the whole picture. This stream is another step towards a universal landscape of business model conceptualization that could help unify previously diverse views of business models.

The last work stream contributes to the design of business models – one of the key purposes for which business model constructs are employed as highlighted in the knowledge map described above. Specifically, this work stream puts forward a system-inspired business model design method. Building directly on the RCAS framework, this stream employs combinatorial design thinking from engineering education and design to create a design method. One of the most critical aspects of this design method is its emphasis on creating a complete, to the extent possible, set of design options for each elemental function that composes a business model. To achieve this, an extensive review of over 200 company annual reports was conducted to generate design options for each elemental function. This design method focuses on raising awareness of one's design options thereby enhancing the potential for business model innovation.

Collectively, this study advances the business model body of knowledge in both research and practice. The study is unique in its proactive employment of the RCAS construct to define a business model, its focus on abstraction to form a theoretically robust and potentially universal landscape for knowledge and research on business models, and its proposition of a structured approach to complete business model design. It is hoped that the developments outlined herein help pave a path to a more unified view of business model concepts that can foster connections between the work of researchers who employ business model constructs and further advance the state of knowledge in this arena.