Chapter 9
Profiling Information and Communication Technologies: Guiding the Channel Choices of Technology Leaders

J. David Johnson
University of Kentucky, USA

ABSTRACT
Perhaps the most basic decision that educators can make in communicating with students is what communication channel to use. Innovation profiles apply the classic attributes of an innovation—relative advantage, compatibility, complexity, trialability, and observability—to new information and communication technologies to facilitate their successful implementation. Most importantly, as the author demonstrates in applying this concept to distance learning and teaching platforms, technology leaders can analyze technologies a priori to determine potential problems. Profiling the affordances offered by various communication channels will greatly facilitate the work of technology leaders as change agents charged with implementing technologies that confront the numerous challenges facing higher education: retention rates, affordability, and preparing students for the work world.

INTRODUCTION
The implementation of technologies in higher education has been unfortunately subject to boom and bust cycles in part because technology leaders have not adequately profiled their attributes before adopting and implementing them. The failure of a technology to live up to its early promise, then, provides ammunition

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to resistors (Zemsky & Massy, 2004). Recently, we have seen a familiar boom and bust cycle with MOOCs (Massive Open Online Courses), the most dramatic recent instantiation of distance learning (Rhoads, Camacho, Toven-Lindsey, & Lozano, 2015; Selwyn, Bullfin, & Pangrazio, 2015; Siemens, 2015). Almost every new communication technology, from radio to television to the Internet, has been subject to similar boom and bust psychology within the educational community (Mayer, 2005; Miller, 2014), in part because they do not focus on the underlying linkage to basic affordances of communication channels as innovation attributes. Awareness of attributes and affordances of technologies can permit technology leaders to develop a profile that enables the development of strategies that increase the currently low odds of successful implementation. A deeper appreciation of the affordances offered by various communication channels, then, will greatly facilitate the work of technology leaders as change agents charged with implementing technologies that are appropriate in confronting the numerous challenges facing higher education: retention rates, affordability, and preparing students for the contemporary world of work.

BACKGROUND

Historically, researchers have focused on innovations in terms of their attributes, or perceived characteristics, based on respondents’ subjective judgments, which play a significant role in the diffusion of innovation. For example, Katz (1963) saw the adoption of an innovation as being contingent upon its compatibility, or the degree to which the features of an innovation matched potential adopters. Two decades later, Rogers (1983) developed the most commonly recognized scheme available for examining differing properties of innovations. He identified five perceived attributes of an innovation: relative advantage, compatibility, complexity, trialability, and observability.

There should be a conscious weighing of these attributes before implementing innovations. With knowledge of innovation attributes, technology leaders in academe can develop appropriate strategies to facilitate their implementation (Dearing, Meyer, & Kazmierczak, 1994). For example, innovations that are seen as more risky may require higher volumes of persuasive communication in the implementation stage (Fidler & Johnson, 1984). Here we will compare and contrast MOOCs and teaching platforms by profiling their attributes to demonstrate how this approach provides a more nuanced view of innovation implementation (see Table 1 below).
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