Chapter 73

Rogers' Innovation Diffusion Theory (1962, 1995)

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ABSTRACT

This chapter presents an overview of a key overarching theory of adoption of innovations, Rogers' Diffusion of Innovations Theory. A complex yet coherent set of concepts and models comprise the overall theory, which is summarized by the definition established by Rogers (2003): "the process by which (1) an innovation (2) is communicated through certain channels (3) over time (4) among the members of a social system" (p. 11, emphasis in the original). First, a brief background on Everett Rogers is provided, then a history of the development of the theory basis is presented. Next, the four core components of the theory, as well as the strengths and limitations of the theory are discussed. Finally, the relation between the diffusion of innovations theory and other technology adoption theories, specifically TAM and UTAUT are briefly described, with areas for possible further expansion identified.

INTRODUCTION

The diffusion of innovations is a key theory in understanding the adoption of technology, which in turn can help understand user needs and inform the design of user-friendly systems. This chapter presents an overview of the diffusion of innovations theory and its role in Information Science as an explanatory theory for adoption of technology. While diffusion is an old concept, dating to the 1800s, scholarly research on it did not begin to take off until the 1960s. Since then, however, work on this theory has exploded, with a plethora of empirical researches conducted on a multitude of innovations in nearly every discipline. Throughout this rapid and expansive development of the diffusion literature, one scholar – Everett Rogers – has tracked the development of the concepts and models from the various fields and disciplines, consolidating them into a coherent theory over 40 years until his death in 2004. Having established the accepted definition of diffusion of innovations, organized the various concepts and models, and written the book that serves as the primary reference for the fundamentals of the theory, Rogers can certainly be recognized as the authority on diffusion.

The diffusion of innovations theory is actually a collection of models and concepts that form a coherent approach to understanding the many components within the process of innovation adoption. The core model was articulated by Rogers in his seminal book, *The Diffusion of Innovations*, first published in 1962 and with updates approximately every 10 years (1962, 1971, 1983, 1995, 2003). In this model, diffusion is described as "the process by which (1) an *innovation* (2) is *communicated* through certain channels (3) over *time* (4) among the members of a *social system*" (Rogers, 2003, p. 11, emphasis in the original). Each part of this model – the innovation, communication channels, time, and social system – has a set of related concepts, approaches, and models that further describe and flesh out the core component.

As the most widely accepted and applicable theory on the adoption and spread of innovations, the diffusion of innovation theory is a key foundational theory for the adoption of technology. This chapter will present an overview of the theory, summarize the key concepts and models, and describe its relation to other technology adoption models, with areas for possible further expansion identified.

EVERETT M. ROGERS

Everett M. Rogers (1931-2004) is the most recognized name associated with the diffusion of innovations. Rogers was among the first to recognize the study of diffusion across disciplines, and in particular the lack of theoretical writing concerning diffusion. He literally wrote the book on the subject, publishing five editions of the seminal text "Diffusion of Innovations." His work on diffusion was sparked during his graduate work at the Iowa State University, from which he graduated with a PhD in sociology and statistics in 1957 (Rogers, 2004). While studying the adoption of agricultural innovations among farmers in Iowa, he perceived diffusion as a more generalized concept, applicable to any type of innovation; as he called it "a kind of universal micro-process of social change" (Rogers, 2004, p. 16). Shifting from rural sociology into the fields of public health and communication, his scholarly life's work centered on developing the model and its application to a wide variety of fields. By comparing, evaluating, and summarizing these studies, Rogers merged the findings that each research tradition had been discovering on its own. From his initial intent of organizing common findings in diffusion research, the model's framework emerged, as well as standardized descriptions of related components, such as adopter categories. His work provided the structure for the theory as it is known today, with the basic framework and accompanying conceptual components. From the studies that proliferated after Ryan and Gross' (1943) study, Rogers delineated the research questions and investigations that would be allowed as legitimate. Also, by naming the various research traditions dealing with this topic, he identified possible invisible colleges. In retrospect, Rogers' first book can be seen as an evolutionary record of the revolutionary paradigm that began the field of diffusion theory (Valente & Rogers, 1995). His books are one of the top most-cited publications on the Social Science Citations Index, affirming their place as the seminal and most influential pieces on diffusion.

BRIEF HISTORY OF THE DEVELOPMENT OF THE THEORY

Diffusion of innovations is an old concept, long recognized by anthropologists and historians in their work on the spread of culture (Heine-Geldern, 1968). An important historical founder is Gabriel Tarde, the French sociologist, who in the late 1800s studied "imitation," what can be readily recognized today

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