Chapter 68
Investigating the Connection Between Awareness and Internet Non-Use

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ABSTRACT

Empirical studies on technology adoption usually are based on data from self-reported measures, and a large subset of this literature draws on the Theory of Planned Behaviour (TPB) or Technology Acceptance Model (TAM). However, for non-Internet users, self-reported measures and these theoretical frameworks face important limitations: non-users often are under-informed about the technology and are unable to accurately explain their non-use. In addition, the measurement instruments in the TAM/TPB literature often are not applicable to non-users. Addressing these issues, this paper examines non-Internet users' awareness of the Internet's benefits and its impact on adoption intention. Focusing on the under-informed, this approach substitutes awareness for perceived usefulness (or affective attitude). Test results demonstrate good predictive power on non-Internet users' adoption intention, calling for caution when applying these commonly used analytical tools to study late-adopters of technology.

INTRODUCTION

Research on the patterns of technology diffusion and adoption draws heavily on two literatures: the Diffusion of Innovations tradition and Technology Acceptance Model/Theory of Planned Behavior (TAM/TPB). The Diffusion of Innovations literature (Rogers, 2003), coming from sociology and communication, looks at technology diffusion with a holistic view, covering aspects from the innovation-decision process to technology attributes, actors, channels and networks. In contrast, stemming from the practical need to forecast demand for technologies, TAM/TPB have a narrower focus on predicting adoption and use of technologies (Ajzen, 1991; Davis, 1986, 1989; Davis, Bogazzi, & Warshaw, 1989). Over the

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years, there have been efforts to combine these theoretical frameworks, but the focus has been on testing equivalence of constructs across theoretical models and augmenting TAM to account for technology adoption decisions in contexts beyond organizations. It is fair to say that when it comes to predicting technology adoption, standard TPB, TAM and their variants still dominate the literature.

This paper points out that the diffusion theory's insight on the innovation-decision process sheds light on an important methodological issue with relying on non-user self-reporting and TAM/TPB when subjects include non-Internet users. It shows how these standard tools can produce misleading results and what measures must be taken to avoid such problems. First, Non-users can report their behaviour (non-adoption), but they cannot accurately assess whether their non-adoption stems from lack of awareness (or poor understanding) of the technology in question. TAM investigates how adoption decision is determined by prospective users' perceived usefulness of a new technology (among other factors). This framework assumes that the prospective users have enough knowledge and understanding of the Internet's uses and benefits to form an accurate perception conducive to informed decision-making. This assumption is appropriate for the original TAM model, which was developed in the organizational context where prospective users are usually well informed about the technology through education programs provided by the organization. However, the same assumption becomes highly questionable when it comes to scenarios where prospective users are not necessarily well-informed about the technology in question—this probably applies to many non-Internet users, especially those socioeconomically disadvantaged non-users.[1]

Similarly, TPB investigates how adoption decision is determined by prospective users' affective attitude towards a new technology (among other factors). This is problematic when it comes to Internet non-users because TPB can only show that negative affective attitude is correlated with low adoption intention, but negative attitude can stem from either genuine lack of interest or lack of awareness of the technology. Without telling these possibilities apart, policy interventions cannot be targeted and their effectiveness will likely be compromised as a result.

Another issue with applying TAM/TPB to non-users is on the instruments used for measuring perceived usefulness and affective attitude. Perceived usefulness and affective attitude are usually measured with statements such as "electronic mail improves my job performance" and "I find the system to be useful in my job", which are often not applicable to non-users.

To remedy these issues in the study of Internet non-use, the present paper turns its attention to awareness (of the benefits of the Internet), which avoids the aforementioned pitfalls. It proposes a simple model that explains Internet adoption decision through awareness instead of perceived usefulness (and affective attitude). The results show a parsimonious model with strong predictive power.

LITERATURE REVIEW

This Section starts by briefly summarizing the literature of digital divide/inequalities to highlight the need for research on Internet adoption decision of non-users. The main focus then moves on to the two dominant theoretical paradigms of Internet adoption studies—the Technology Acceptance Model (TAM)/ Theory of Planned Behaviour (TPB) and the diffusion theory. This Section also identifies the most relevant aspects of these theories and how they can be modified to explain Internet non-use.