EXPLORING THE ANTECEDENTS OF INFORMATION SYSTEMS HABIT FORMATION IN LEARNING SYSTEMS: ROLES OF PERSONALIZED IT APPLICATIONS AND SOCIAL EFFECTS

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Abstract

With the increasing number of digital native Information Systems (IS) users, one challenge in IS research is to sustain users’ long term continuous IS usage, especially among digital natives. As reported in different studies, IS users generally show positive IS acceptance behavior at the beginning but negative long term IS continuance as time passes. This phenomenon is also common among users of different educational technologies, e.g., learning systems under institutional and other organizational settings. In the educational context, learning systems continuance affects learners’ achievement of learning outcomes, especially in fostering reflective practice through sustained and lifelong learning.

This thesis addresses the serious problem of negative IS continuance over the long term. Attempts to theorize IS continuance issues have been reported in the literature. IS researchers have proposed different theoretical frameworks and practical guidelines to address IS continuance over the past two decades. Most researchers emphasize users’ conscious (e.g., rational and emotional) behavior in order to explain and predict IS continuance behavior. The effect of users’ unconscious behavior (e.g., IS habit) on IS continuance, however, has long been understudied, and there is still a paucity of research, as the studies on IS habit mostly present statistical analysis of habitual effects on IS continuance behavior. Attempts to identify and validate antecedents of IS habit have only started recently. There is also a dearth of qualitative research to explore issues related to IS habit formation.

To fill the research gaps, the objectives of this thesis are to: (1) identify the antecedents of IS habit, e.g., through IT functionality design and users’ peer effect; (2) evaluate the relationships between the IS habit antecedents, IS habit and IS continuance behavior;
and (3) propose practical guidelines on aligning learning systems with curriculum design to achieve long term continuance.

To fulfill these objectives, a series of two qualitative and quantitative studies designed under the Action Design Research (ADR) methodology to address the theoretical gap on antecedents of IS habit and to ascertain their impacts in the context of learning systems are carried out. Using Automatic Lecture Capturing System (ALCS) and Moodle Learning Management System (LMS) as the case settings in the two studies, the first study identifies student and teacher perceptions on ALCS usefulness, and proposes ways to foster long term continuance technically, pedagogically and institutionally. The second study then seeks empirical evidence to ascertain the impact of two representative findings, i.e., personalized IT applications and peer effects, in developing IS habit.

Results suggest that learning systems continuance can be achieved by awareness of a combination of IT artifact extension, better student and teacher motivation, improved teaching and institutional policies facilitating its usage, as well as developed habitual usage. IS habit formation is positively related to availability of personalized IT applications and peer effect. Practically, learning system habits can be fostered through early introduction of peer learning activities that utilize the personalization features.

The contributions of this thesis are twofold. Theoretically, the study addresses the gap in how IS habitual behavior can be fostered through different antecedents. Practically, this research is useful to teachers and educational IS designers in educational information systems to develop and apply different system features so to foster users’ IS habit in order to maximize the learning system utilization.
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