



NO MORE ITA'LEEM: EXPLORING LECTURERS'
DISCONTINUANCE OF THE LMS

BY

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ABSTRACT

This study is a phenomenological exploration of IIUM lecturers' discontinuance of the university's learning management system, iTa'LeEM. The exploration was based on Rogers' (2003) diffusion of innovations theory that explains why and how technology adoption occurs. In addition to understand the lecturers' discontinuance decisions and behaviour, the study also identifies the role of the authority units in mediating their discontinuance decisions of the LMS. The participants were three lecturers from the International Islamic University Malaysia (IIUM) who stopped using iTa'LeEM and opted for a "better" virtual learning platform. An interview guide was prepared to extract themes and answers for the study's research questions. The findings show that Rogers' (2003) five attributes of innovation were the principal driving factors of the discontinuance. Specifically, relative advantage, complexity and compatibility were three key attributes that prompted the lecturers' decisions to quit using iTa'LeEM. Their discontinuance process and patterns also fit into the discontinuance-decision stages suggested by Parthasarathy (1995). The study has enabled a better understanding of discontinuers' profiles as explicated in Rogers' (2003) adopter categorization. Based on the findings, the study suggests that the relevant authorities in IIUM look into the features and general usability of iTa'LeEM to ensure its continued adoption and sustainability among lecturers.

خلاصة البحث

تهدف هذه الدراسة إلى استكشاف ظاهرة توقف محاضرين في الجامعة الإسلامية العالمية بماليزيا عن استخدام نظام إدارة التعلم (iTa'LeEM) بالاعتماد على نظرية انتشار الابتكارات لروجرز (٢٠٠٣)، التي تشرح لماذا وكيف يتم تبني التكنولوجيا. وتقدم فهم أوسع لقرارات وسلوكيات الأفراد المتعلقة بالتوقف عن استخدام نظام إدارة التعلم. تُحدّد الدراسة دور وحدات صنع القرار في التعامل مع مثل هذه القرارات. شارك في هذه الدراسة ثلاثة محاضرين من الجامعة الإسلامية العالمية بماليزيا الذين توقفوا عن استخدام (iTa'LeEM) وآثروا استخدام منصة تعلّم افتراضية أفضل. تم إعداد دليل المقابلة لاستخراج الأفكار والإجابات عن أسئلة البحث. تُظهر النتائج أن خواص روجرز (٢٠٠٣) الخمسة للابتكار كانت العوامل الرئيسة الدافعة للتوقف عن تبني منصة إدارة التعلّم الافتراضية. وعلى وجه التحديد، مثلت الخواص الثلاثة وهي الفائدة النسبية ومستوى التعقيد ومستوى التوافق الدافع الرئيس لقرار توقف المحاضرين عن استخدام (iTa'LeEM) وكذلك تطابقت أنماط عملية اتخاذهم لقرار التوقف عن التبني مع تلك التي اقترحها (1995) Parthasarathy. هذا وقد أعطت الدراسة فهماً أفضل للسمات الشخصية للأفراد المتوقفين عن تبني الابتكارات كما هو موضح في تصنيف الأفراد لروجرز (٢٠٠٣). وبناءً على النتائج، تقترح الدراسة أنّ على وحدات صنع القرار ذات العلاقة في الجامعة الإسلامية العالمية بماليزيا إعادة النظر في الميزات والاستخدامات العامة لمنصة إدارة التعلم (iTa'LeEM) لضمان تبنيها المستمر واستدامتها بين المحاضرين.

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it confirms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Education (Instructional Technology).

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Ismail Sheikh Ahmad
Dean, Kulliyah of Education

DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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This dissertation is dedicated to my parents

Awadh AL Hudaifi & Ghaya AL Hudaifi

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The literature on the growing importance of information and communication technology (ICT) innovation, adoption and decision behaviours reflect intense interest in the matter (Demir, 2014). The adoption and utilization of information and communication technology (ICT) innovations in the educational contexts offer myriad opportunities to enhance students' learning experience (Kashada, Li, & Koshadah, 2018). This has brought countless trends and innovations to our classrooms for the purpose of improving learning. For example, recent statistics show that teachers' adoption of innovative gamification tools is quickly and steadily rising due to teachers' believing in the power of these tools to affect learning (Vallett, Annetta, Lamb, & Bowling, 2014). However, researchers agreed that the initial adoption indexes of an innovation are not the only indicator of its success; what is also important is the long-term value and sustainability of the innovation (Kashada, Li, & Koshadah, 2018; Olson & Appunn, 2017; Latif, 2016; Spencer, 2015; Hsu & Chiu, 2004; Rogers, 2003).

Understanding the factors influencing and affecting an individual's adoption and continuance decision to use new technologies—especially those of teachers—are a highly significant topic for ICT experts. Furthermore, it is crucial, too, to understand why some individuals would decide to reject, discontinue or underuse technologies that they initially adopted. Therefore, more research is necessary to completely comprehend the factors behind user post-decisions vis-a-vis previously adopted innovations.

In theory, post-adoption behaviours suggest that individuals are not interacting with ICTs and innovations passively, even where their relevant institutions had made a top-down innovation adoption decision (Rogers, 2003). Rather than accepting institutional decisions submissively, individuals tend to dynamically interact with the innovation by developing their own experiences and opinions, and evincing numerous feelings about it, too (Cho, 2008; Rogers, 2003). In addition, such trends or patterns emphasize another fact about human behaviour—it is adaptive rather than stable and stagnant over time (Rogers, Medina, Rivera, & Wiley, 2005). An individual tends to adjust his or her decisions about a previously adopted innovation in order to meet a set of external and internal standards (Gresham & Elliott, 1987).

The trends of adaptation result in a post-adoption behaviour that Rogers (2003) called discontinuance. It is a concept that can be found in the field of communications and innovations to explain and predict the acceptance and adoption of technologies. In Rogers' Diffusion of Innovation theory, discontinuance was introduced as a post-adoption behaviour along with the continuance of adoption, reinvention and maintenance of the innovation to meet certain specifications (Chea & Luo, 2014; Parthasarathy & Bhattacharjee, 1998; Li & Liu, 2014). Rogers (2003) defined the concept of discontinuance as a decision "to reject an innovation initially adopted" (p. 190). He classified it as a behaviour occurring in the confirmation stage within the Innovation Decision Process (IDP) (Rogers, 2003). IDP is the mental process whereby the individual passes through five stages to confirm a decision of whether to adopt or reject an innovation. Similarly, in the Technology Acceptance Model (TAM) and Expectation Confirmation Model (ECM), this particular post-decision is conceptualized as acceptance-discontinuance (Lee M.-C., 2010; Bhattacharjee, 2001). Thus, the study

of discontinuance behaviour and decisions is not one of non-importance as the concept is addressed in a number of theories and models of technology adoption.

The technology examined in this dissertation is the Learning Management System (LMS) in higher education institutions (HEIs), more precisely, the iTa'LeEM LMS in the International Islamic University Malaysia. LMS, like any instructional technology, should be employed effectively with a meaningful pedagogical role rather than just a content transmitter (Jwaifell & Gasaymeh, 2013). To facilitate the electronic creation and delivery of academic content, especially in large-scale educational institutions, learning management systems are typically used. Innovation diffusion research focused on the acceptance and adoption of LMS among different stakeholders and levels of the educational systems. It has been expanded largely to include the influence of several factors on the acceptance, perceptions of individuals, and importance of use.

Basically, in HEIs, looking at LMS from revenue-generating activities or products and services viewpoint, is an important consideration that should be a concern to the decision-making units. From a sustainability point of view, the *collective discontinuance behaviour* is related to the risks associated with replacing these systems' cost, the resources that have been invested in them, and institutionalized norms that reflect dominant opinions concerning preferred ICT solutions (Furneaux & Wade, 2017). Decision makers need to understand the reasons behind the LMS discontinuance behaviour, in order to initiate strategies that maximize the potentials of the supported instructional technologies. Nevertheless, LMSs are meant to improve the productivity and efficiency of the teachers and facilitate the communication channels between teachers, students, and technical support. Discontinuance of such innovation raises a

significant concern that it might have resulted from an internal dissonance about the innovation, which simply translated itself into a terminal dissatisfaction (Rogers, 2003).

In order to devise effective implementation strategies, the responsible parties and service providers need to understand precisely why and how lecturers make post-adoption decisions of LMS. Understanding the aspects which affect adoption or rejection of the technology will expand the educators' pedagogical limits and inform the higher education sector regarding the appropriate strategies that need to be put in place for LMS adoption sustainability.

1.2 STATEMENT OF THE PROBLEM

The literature provided us with a very insightful and informative body about LMS adoption, however, the discontinuance and post-adoption behaviours of such systems (and other instructional technology adoption), in general, have been neglected (Al Zoubi & Al Zoubi, 2017; Fenech & Longford, 2014; Rogers, 2003), particularly at the HEI level. It is not enough to introduce the idea of *discontinuance* as the opposite of *continuance* decision, especially in light of diagnosing the issues and challenges surrounding adoption and acceptance of innovation. We need to understand further the discontinuance drivers, the discontinuance process, and the discontinuers' traits. In the case of complex innovations, like learning management systems (LMS), it is important to understand that teachers might be very particular and specific in taking the discontinuance decision of LMS, based on their own experience after the initial adoption, unlike the adoption decision that can be taken based on the innovation's *perceived usefulness*, for instance.

There is an issue of *pro-innovation bias* discussed by some researchers in this field (Rogers, 2003; Fenech & Longford, 2014; Karch, Nicholson-Crotty, Woods, &

Bowman, 2016; Sveiby, Gripenberg, Segercrantz, Eriksson, & Aminoff, 2009). Pro-innovation bias is the belief that the innovation should be adopted by all the members of a social system, and it has to be diffused and communicated rapidly, neglecting the fact that the individuals' needs, and directions are changing continuously. This implication is so applicable to the LMS adoption literature which seems to be built on the assumption that they are "necessarily good". Such assumption will limit the role of decision makers to anticipate the *undesirable consequences* of adopting certain LMS at the institutional level.

Some studies emphasized the LMS implementation strategies among the educational system to maintain stable adoption levels (e.g. Smet, 2015). Such studies contribute to the understanding of institutional role in communicating technology solutions among the social system members. We still need to understand if the discontinuance rate of LMS can affect the institution's discontinuance decision and the potential of replacing it with a new platform, and furthermore, how the institution should evaluate and mediate its teachers' discontinuance decision.

Bearing in mind the above-mentioned gap, it is interesting that the Ministry of Higher Education published the Malaysian National E-learning policy (Dasar e-Pembelajaran Negara 2.0 or DePAN 2.0), in 2011, to shape the benchmark of the e-Learning deployment among HEIs. The DePAN requires HEIs to:

"... i) deploy its own Learning Management System (LMS), ii) develop original e-content, iii) utilise the blended learning approach in course delivery, iv) establish a professional development programme with regards to e-Learning and v) execute effective activities to enculturate e-Learning usage within the campus community." (Ministry of Education Malaysia, 2014, p. ix).

The DePAN 2.0 is commensurate with the vision of the 10th Malaysia Plan (2011-2015), and it underscored two of the twelve national key economic areas

(NKEAs), namely education services and information and communication technology, as keys to obtain the substantiality in the Malaysian economy (The Economic Planning Unit, 2010) Later, the 11th Malaysia Plan (2016-2020) reaffirmed the national vision and aims to develop world-class human capital by "*anchoring growth on people*". The six strategic thrusts of the plan prioritized the enhancement of ICT in the education sector for further economic growth and greater prosperity (PMO, 2015).

The International Islamic University (IIUM) responded to this national impetus, and endorsed the policy that e-Learning is a compulsory instructional method. The overall policy was formulated to enhance the quality and effectiveness of teaching and learning through a learner-centered electronically-mediated environment. iTa'LeEM was declared to be the official LMS to support the implementation of blended learning and support the collaborative activities among learners and instructors (IIUM, 2018). However, recently, there is a decline in iTa'LeEM LMS use among IIUM faculty, whereby many lecturers abandoned iTa'LeEM in favor of an alternative platform (IIUM, 2018).

Among the IIUM top management, the reported indexes of iTa'LeEM adopters against the total number of lecturers who are expected to use it (IIUM, 2018), are a cause for concern as the drop in its usage might influence IIUM progress towards the objectives of DePAN 2.0. Notedly, 453 courses in IIUM effectively implemented the blended learning rubric suggested by the national e-Learning Policy (DePAN 2.0), out of 2210 courses offered by the university in Semester Two of the 2017/2018 academic year (IIUM, 2018), a 20.5% application ratio. Hence, exploring lecturers' discontinuance of the LMS can provide the decision makers within IIUM with a proper understanding of the discontinuance aspects to better expedite LMS acceptance among lecturers, as well as reaching adoption stabilization and sustainability, which might be

reflected positively in the university's progress to fulfill phase two stipulations of the national policy.

1.3 RESEARCH OBJECTIVES

The study aims to explore the factors that influenced selected IIUM lecturers' discontinuance of iTa'LeEM and to profile the factors in terms of Rogers' (2003) five attributes of innovation. The purpose of this profiling is to further understand if the lecturers' discontinuance decision could be a function of how they perceived iTa'LeEM in terms of its attributes. Additionally, the study aims to map out the existence of the discontinuance process and compare it against Rogers' (2003) stages of adoption. In order to investigate the discontinuance decision process and give a comprehensive explanation of the phenomenon, Parthasarathy's discontinuance model (1995) is employed. Further, it is the study's objective to use Rogers' (2003) adopter profile to explore the motives and traits of iTa'LeEM LMS discontinuers in order to understand why they had decided to stop using the tool. Finally, the study aims to explore the role of the responsible parties in IIUM in mediating the iTa'LeEM LMS discontinuance decision and suggest some strategies that would secure or sustain the adoption decision process.

1.4 RESEARCH QUESTIONS

The study attempts to address the following research questions:

1. How do Rogers' attributes of innovation (2003) explain IIUM lecturers' discontinuance behaviour regarding iTa'LeEM?
2. How does Parthasarathy's discontinuance model (1995) explain the discontinuance decision process of the IIUM lecturers?

3. How do the individual traits and motives of the IIUM lecturers affect their iTa'LeEM discontinuance behaviour?
4. What strategies can be employed by the relevant parties in IIUM to sustain iTa'LeEM adoption among IIUM lecturers?

1.5 THEORETICAL FRAMEWORKS

Two main frameworks were used to examine and understand lecturers' discontinuance decision and behaviour, namely Rogers' diffusion of innovation theory and Parthasarathy's Discontinuance Process model (1995).

1.5.1 Rogers' Diffusion of Innovation Theory (2003)

This study is designed to analyze lecturers' experiences of iTa'LeEM LMS discontinuance in the International Islamic University Malaysia, with respect to Everett M. Roger's Diffusion of Innovation Theory (IDT). To begin with, the discontinuance decision is one of the post-adoption decisions that occur by the end of the five stages in the *Innovation-Decision Process*, introduced by Rogers (2003). The first three sequential stages in the process of innovation-decision are *knowledge*, *persuasion*, and *decision*, followed by the two resulting stages, namely *implementation*, and *confirmation*.

The focus is primarily on the *discontinuance* of an earlier adoption of iTa'LeEM as the LMS by the lecturers. In Rogers' (2003) stages of technology adoption, discontinuance takes place after an active usage, implementation and assessment of the facility. Figure 1.1 illustrates the sequential process of the innovation adoption decision.

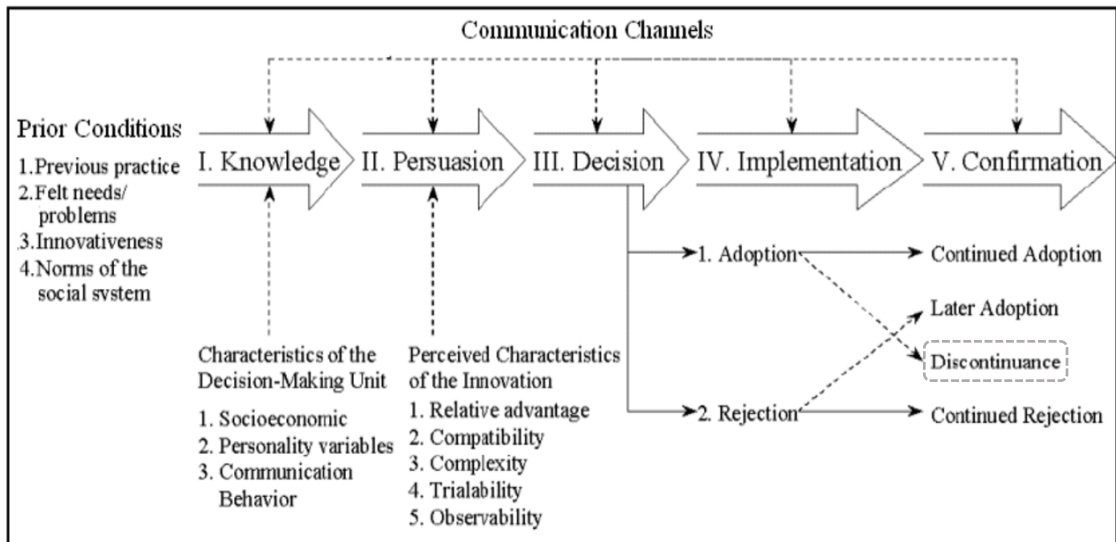


Figure 1.1 The Five Stages Model of in the Innovation-Decision Process

Rogers describes the innovation-decision process as a process going from left to right in five stages. The stages are summarized as follows (Brooks, 2011, p. 2):

Firstly, the *Knowledge stage* when the potential user gets exposed to the innovation and attempts to understand how it functions and relates its adoption to their own tasks and specifications. After the initial exposure, the second stage of *Persuasion* takes place when the user appraises the innovation, forms an attitude (favorable or otherwise) towards it, and starts seeking more information about it. Heterophyllous communication with the social system's opinion leaders and change agents is very critical at this stage to affect the user's knowledge about the innovation, hence his or her appraisal of it. The third stage is the *Decision* stage, where the decision to adopt or reject the innovation is rendered, moving the user to the *Implementation* stage, which is a representation of the actual application of the innovation in the user's ongoing tasks or operations. The fifth and final stage is the *Confirmation* stage, whereby the user looks for reinforcement after making the innovation-decision. Here the post-decisions come to pass; if the user is satisfied with the adoption decision, he or she will then continue

with the adoption, or, conversely, retain the rejection decision. However, the adoption and the rejection decisions are not permanent decisions, so the adopters might discontinue their adoption, and those who rejected the adoption at first might switch to the adoption decision later.

This phenomenological analysis explores the reasons behind some IIUM lecturers' decision to discontinue the adoption of iTa'LeEM after having used it earlier. Rogers (2003) suggested three types of discontinuance: (1) *replacement* when the individual finds another preferred and befitting innovation; (2) *disenchantment* discontinuance which results from dissatisfaction with the outcome of the adopted innovation; and (3) *forced* discontinuance, if the discontinuity is decided by an authority unit as a top-down decision, due to some new policy. Hence, to further understand the *discontinuance* of iTa'LeEM in this research context, the study covers the five perceived attributes of innovation adoption. These attributes are: *Relative advantage*, *Compatibility*, *Complexity*, *Trialability* and *Observability*, each of which is explained in detail in later sections of this work.

Additionally, through the *adopters' profiles categorization*, the characteristics of the discontinuers were examined for the purpose of identifying their traits and verifying the existence of discontinuers profiling by Rogers. The LMS discontinuance motives and drives fall within the ambit of this study.

The technical support and service providers in IIUM are, Centre for Teaching and Learning (CTL), Information Technology Division (ITD) & Centre for Professional Development (CPD) are the representatives of the *Change Agent* in Rogers's theory. Change agent is the party responsible of diffusing the innovation among members, therefore, it is an essential aspect of this study to understand comprehensively the LMS

discontinuance phenomenon. As they play leading role in the promoting iTa'LeEM adoption and securing its adoption among the university's lecturers.

1.5.2 Parthasarathy's Discontinuance Process Model (1995)

Parthasarathy (1995) proposes that the discontinuance decision follows a similar process to Rogers' (2003) five stages of innovation decision: knowledge, persuasion, decision, implementation, and confirmation. Parthasarathy's five-step model of discontinuance consists of the following:

1. *Awareness*: the phase when the individual becomes aware that the current innovation does not serve the individual's requirements or needs.
2. *Evaluation*: once the individual is conscious of the adoption's drawbacks, the evaluation phase starts with the processing the information and evaluating the available alternatives with the aim of making a decision.
3. *Trial*: this is the phase of testing the alternative innovations, in replacement of the discontinued innovation; an adequate trial period is necessary to remove uncertainty, leading to the following stage.
4. *Decision*: the newly adopted innovation is introduced to the ongoing routine tasks by the individual, which affirms the actual discontinuance decision.
5. *Post-decision*: this final phase is when the individual starts evaluating the feasibility of the discontinuance decision and ratifies it with a post-adoption decision (continuance, reinvention, or even another discontinuance).

The *Need recognition* of the necessity of discontinuance due to previous adoption circumstances is considered the trigger that stimulates the discontinuance process. However, this model needs to be empirically investigated to know exactly how discontinuers make and conclude their decision in comparison to adopters (Cho, 2008).