Factors Affecting Slow Adoption of NFC-enabled Payment Services: Sri Lankan Consumers' and Service Providers' Perspective

Kariyawasam Thiranagama Gamage Dilini Kawshalya

(179116X)

Master of Business Administration in Information Technology

Department of Computer Science and Engineering

University of Moratuwa

Sri Lanka

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DECLARATION

I declare that this is my own work and this thesis does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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The above candidate has carried out research for the master's thesis under my supervision.

…….. ……...

Dr. H.M.N. Dilum Bandara Date

ABSTRACT

Near Field Communication (NFC) enabled contactless payments were introduced to Sri Lanka in 2013. However, its adoption and usage remain low in Sri Lanka. This study examines the factors affecting the slow adoption of NFC-enabled payment solutions from both the consumers' and service providers' perspective. We adopted an interview-based qualitative methodology to explore service providers' perspective. Several factors from these findings and a literature survey were then used to derive a survey to explore the adoption factors from the consumers' perspective. Based on the literature survey findings and the Technology Acceptance Model (TAM) the research framework was designed to understand consumer adoption. The research framework consisted of nine independent factors and two mediating factors. A survey was distributed among the consumers to find the consumers' adoption factors towards the NFC-enabled payments. Structured Equation Modelling was used to analyze the collected survey data. The research findings demonstrate that only the perceived ease of use has a positive impact on the adoption of NFC-enabled payments. Compatibility, awareness, and the intention to use have a direct impact on the perceived ease of use; hence, have an indirect positive impact on the adoption of NFC-enabled payments in Sri Lanka. Technical issues such as limited battery power of Point of Sales (POS) devices, uncertainty around consumer transaction security, associated initial and recurrent costs, and inadequate government regulation were identified as factors affecting the slow adoption of NFC-enabled payments from the service providers' perspective. The findings of this research could be helpful for mobile commerce in general to increase the adoption of NFC-enabled payment services in Sri Lanka, and specifically to the service providers and merchants while implementing new NFC-enabled payment applications.

Keywords: Consumer adoption, Near Field Communication (NFC), NFC-enabled payments, Technology Acceptance Model

DEDICATION

To

My Parents

Two strong souls who guide me and support me to achieve my life goals

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LIST OF ABBREVIATIONS

ADOP	Adoption
COM	Compatibility
COS	Cost
ITU	Intention to use
NFC	Near Field Communication
NPK	NFC payment knowledge
PEU	Perceived Ease of use
PI	Personal Innovation
POS	Point of Sale
PR	Perceived Risk
PU	Perceived Usefulness
RE	Reachability
SIM	Subscriber Identity Module
SN	Social Norms
TAM	Technology Acceptance Model

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