APPROVAL

I hereby declare that I have read this dissertation and in my opinion this dissertation is sufficient in terms of scope and quality for the award of the degree of Bachelors of Technology Management (High-Technology Marketing).

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TECHNOPHOBIA AND TECHNOLOGY ACCEPTANCE:

THE MODERATING ROLE OF TRANSFORMATIONAL LEADERSHIP

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in partial fulfilment of the requirements for the

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DECLARATION

I hereby declare that the work in this thesis is my own except for the quotations and summaries which have been duly acknowledged. This thesis has not been accepted for any degree and is not concurrently submitted for award of other degree.

Signature : .....

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This thesis is dedicated to my parents,

and

To my friends,

For their endless love, support and encouragement.

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This thesis is only a beginning of my journey.

ABSTRACT

This study seeks to study the relationship between technophobia and technology acceptance. Main research objectives include i) to study the relationship between technophobia and technology acceptance, ii) to study the relationship between transformational leadership and technology acceptance and iii) to study the role of transformational leadership as moderating variable towards the relationship between technophobia and technology acceptance. For this study, the sample will be collected from 300 students which will represent the overall student population in Malaysia through the research approach of quantitative cross-sectional survey research. The research method of explanatory research will be applied and questionnaire is used as research technique for collection of data. Results show that there are significant relationships between technophobia and technology acceptance, transformational leadership and technology acceptance and lastly, transformational leadership also significantly plays a moderating influence on the relationship between technophobia and technology acceptance. This research will assist in reconstructing and modernizing research in areas such as technophobia and its effect on technology acceptance since the results showed that psychological reactions that impact its users was caused by technologies.

Keywords: Technophobia, Technology Acceptance, Transformational Leadership

ABSTRAK

Kajian ini bertujuan untuk mengkaji hubungan antara teknofobia yang bertindak sebagai pembolehubah bebas dan penerimaan teknologi sebagai pembolehubah bersandar. Objektif kajian secara khususnya ialah i) Mengkaji hubungan antara Teknofobia dan Penerimaan Teknologi ii) Mengkaji hubungan antara Kepimpinan Transformasi dan Penerimaan Teknologi dan iii) Mengkaji hubungan antara Teknofobia dan Penerimaan Teknologi beserta dengan Kepimpinan Transformasi sebagai pengantara. Bagi kajian ini, sampel dikumpul daripada 300 orang pelajar yang dianggap sebagai wakil keseluruhan populasi pelajar di Malaysia. Soal selidik dilaksanakan secara kuantitatif, metodologi kajian merupakan penyelidikan penerangan dan teknik kajian yang digunakan ialah melalui borang soal selidik. Keputusan analisis menunjukkan terdapatnya hubungan yang signifikan di antara teknofobia dan penerimaan teknologi, kepimpinan transformasi dan penerimaan teknologi dan akhirnya, kepimpinan transformasi juga sememangnya mempunyai peranan sebagai penganatara di antara teknofobia dan penerimaan teknologi. Kajian ini akan membina dan menyokong kajian mengenai teknofobia pada masa hadapan beserta dengan kesannya terhadap penerimaan teknologi memandangkan keputusan analisis menunjukkan reaksi psikologi yang disebabkan oleh teknologi.

Kata kunci: Teknofobia, Penerimaan Teknologi, Kepimpinan Transformasi

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(	=	Open parenthesis
)	=	Close parenthesis
‘	=	Apostrophe
“	=	Quote
,	=	Comma
.	=	Full stop
N	=	Number
n	=	Number
%	=	Percentage
sig.	=	Significant
H_0	=	Null hypothesis
H_1	=	Alternative Hypothesis

LIST OF ABBREVIATIONS

ATM	= Automated teller machine
CARS-C	= Computer anxiety
CD/DVD	= Compact disc/Digital versatile disc
CTS-C	= Computer thoughts
GATC-C	= General attitudes towards computer
MLQ	= Multifactor leadership questionnaire
OPAC	= Online public access catalogue
SST	= Self-service technologies
TA	= Technology acceptance
TAM	= Technology acceptance model
TL	= Transformational leadership
TP	= Technophobia
UiTM	= Universiti Teknologi MARA
UTeM	= Universiti Teknikal Malaysia, Melaka

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Since the past decades, technologies have become a conspicuous issue of our daily lives. Increasing use of technologies significantly brought changes in the society. It was argued that revolution based on technologies are witnessed today. Experts said that, because of the advanced and improved new applications, ease of access and ergonomics, the technology market will significantly grow in the coming years (Özbek, Alnıaçık, Koc, Akkılıç, & Kaş, 2014). There is no clear definition of technophobia in its truest sense in the field of research relating to technology. This study will use a scale developed by Khasawneh and Bellamy (2014) to measure technophobia in a broader context that incorporates new technologies in general. The main thrust of this study is to investigate the relationship between technophobia and technology acceptance. Furthermore, this study will measure the moderating influence of transformational leadership on the relationship between technophobia and technology acceptance. This chapter discusses the problem statement leading up to research questions with research objectives. The scope, limitation, significance of study, conceptual and operational definitions are presented next.

1.2 Background of Study

Technophobia had been a lasting problem in industrial economies through the last 20 years (Korukonda, 2005). According to Brosnan (2002), with the continued growth of modern technologies in nearly all elements to consider of our existence, the count of people who feared them also increased and the technology forbearance by certain individuals had led to ideas and suggestions of the existence of 'technophobia'. The action of resisting new technology in the way of avoidance had been documented clearly within the literature: the term 'technophobe' was used to explain and illustrate individuals who resist adopting technologies when exposed to or given the favourable chance to use them. Technophobia (from the Greek τέχνη - *technē* and φόβος - phobos, "fear") is discomfort, dislike or fear that happens during the usage of modern technologies and complicated technical devices. Technophobia was in additionally defined as an unreasonable dread or uneasiness caused by symptoms of cutting edge innovations. Two components are associated with the definition: first the fear for side effects of innovative improvement on environment and the general public; and second, the fear of utilizing mechanical technology gadgets, for example, propelled innovations and computers (Osiceanu, 2015).

It is important to note that resistance to innovation is a complex process, which much time and high cost are required for its study (Dibrov, 2015), but at the same time, the process needs to be understood to extend the understanding for technology acceptance among consumers. As new product is introduced to the market, differentiating strategies are necessary to be employed by marketers in order to target consumers effectively. Therefore, the main aim of this research is to find out whether technophobia towards technology acceptance moderated by transformational leadership still has its presence in this modern age or whether they have changed as time passes.

1.3 Problem Statement

In a research by Ahmad, Mustaffa, & Ishak (2012), it was mentioned that technology had become a tool in enhancing human knowledge. Accordingly, Government of Malaysia had taken the initiatives to enhance the use of advanced technologies in the country. Steps had been taken by the Malaysian government to inculcate economic development based on technology in the Eighth and Ninth Malaysia Plan, followed by Tenth Malaysia Plan where technology was seen as a key trigger and one of the aspects and main objectives in developing the nation. In the 10th 5-year plan (Tenth Malaysia Plan: 10MP, 2010-2015), they articulated the innovation-driven growth and clearly described the building of information technology infrastructure toward formation/promotion of innovation eco-system, enhancement of education and trainings (Hayashi, Kobayashi, Tsujina, Ueta, Tsuda, Yamashita, & Sawada, 2015).

Clearly, the advancement in technology had brought about momentous changes in all levels of education (Hwa, Tunku, Rahman, Tunku, & Rahman, 2016). It was found that there were many advantages students could derive from adopting the use of technologies through the review of extant literature, such as timely access to resources (Billings, 2002), speedy access to broader range of resources (Sandars, 2006), cost effective (Hatakka, Avdic, & Andersson, 2007), retainable (Kanniappan, 2007), collaborative and interactive (Pardesi, 2007) and learner-prioritised (Den-Bossche et al., 2011). However, the technical challenges that existed also sought to become a major problem and a source of frustration for students. Payne Carter, Greenberg, & Walker (2017) reported that the use of technological devices have a substantial negative effect on students' academic performance and Ghavifekr, Athirah, & Rosdy (2015) further added that students are being discouraged from using the technology devices because of fear of the equipment.

D'Souza and Wood (2004) found that students had mistrust of technologies and were more comfortable with the traditional methods in education. In year 2013, fear of technology was one of the major reasons that kept Malaysians out from using

internet technology (Malaysian Communications and Multimedia Commission Malaysia, 2015) and compared to Singapore by total national population, the internet technology penetration in Malaysia is 11% less. Singapore stood at 82% while Malaysia's internet penetration was only 71% (Kemp, 2017).

Ramayah & Jantan (2010) stressed that despite the existing policies, infrastructure and information that were provided by the government, the level of human capability for the full utilization of resources was not at par with the existing structures and the technological maturity in Malaysian context was still something difficult to achieve. Even though the technological products might provide many benefits and improved functionalities in daily life, previous researchers had found that consumers frequently conveyed less than expected enthusiastic response to a number of certain new high-technology consumer products (Blackler & Brown, 1985; Gold, 1981; Murdock & Franz, 1983; Salemo, 1985).

According to Brosnan & Lee (1998), the lack of ability to cope with technology may produce a psychological effect termed as technophobia and as asserted by Sinkovics, Stöttinger, Schlegelmilch, & Ram (2002), technophobia still occurs in Malaysia. Technophobia was defined as the behaviour or action of dislikes to technologies (M. Brosnan & Lee, 1998) while Martínez-Córcoles, Teichmann, & Murdvee (2017) defined technophobia as a broader and wider concept which includes aversive behavioural, affective, and attitudinal responses to advanced technologies and/or technical devices that are complex. Technophobia was still a persistent issue (Yunus, Wahid, Omar, & Rashid, 2016).

There were many researches on technophobia and the factors affecting technophobia such as age (Galway, 2006; Hogan, 2008; M. J. Brosnan, 1998), gender (Karal, 2009; Kotzé, Anderson, & Summerfield, 2016; Yunus, Wahid, Omar, & Rashid, 2016), experience (Bozionelos, 2001; Rahimi & Yadollahi, 2011; Rosen & Weil, 1995), background (Harris, Davison, Splettstoesser, Wong, & Ye, 1998; J. I. Ahmad & Daud, 2011), ethnicity (Anthony, Clarke, & Anderson, 2000; Harris et al., 1998), technology availability (Richard, 1997) and school socioeconomics (Harris et al., 1998). While technophobia is a rising phenomenon in society today, however they

were not hardly researched due to the fact that science was increasingly paying more focus on progressing new technologies (Martínez-Córcoles et al., 2017), the majority of the existing researches on technophobia only focused on demographic data (Cutajar, 2000) and the view of technophobia was often related to computers only (M. Khasawneh, 2015). There was a lack of study that was separate from computers (M. Khasawneh, 2015), evaluating the user's attitudes, emotions and behaviors toward them (Martínez-Córcoles et al., 2017) and the factors affecting university students' acceptance and use of technological tools as well (S. Y. Park, Nam, & Cha, 2012).

Besides that, to study the relationship of technophobia and technology acceptance, the moderating variable of transformational leadership has been selected to see its influence on the relationship between technophobia and technology acceptance. In recent years, researchers had called for attention and emphasized on the significance of organizational resources such as capabilities of leadership (Samad, 2012). In this new digital realm, higher education institutions were mostly making evolvements to meet the needs of learners during which educators had incorporated and infused technology in the instructional process as students became more tech-savvy (Al-busaidi & Al-shihi, 2010). Bowersox (2012) also added that learners were more technologically advanced than previous decades and they thought and processed information differently, which could be an issue when it came to how information was disseminated.

Transformational leaders were thus seen as being the one able to transform and change the norms and values of their followers (Bass, 1985; Yukl, 1989) by acknowledging there are differences in individuals and gives individualized attention to followers in an effort to grow and improve each follower's ability to meet organization's objectives even though the conception of transformational leadership assumes a constant or consistent leadership style across followers (Bass & Avolio, 1994). The moderating variable in the present study had been used by previous scholars because of this variable's significant impacts on many other outcome variables. Numerous studies had examined the impacts of transformational leadership on several organizational outcomes (Bromley & Kirschner-Bromley, 2007; Burns, 1978; Hemsworth, Muterera, & Baregheh, 2013; Kanungo, 2001; Smith, 2011; Spinosa, Glennon, & Sota, 2008; Val & Kemp, 2012) but there was still a lack of

research on transformational leadership as moderating influence on the relationship between technophobia and technology acceptance on students. Researcher will be focusing on university students due to their longer life expectancy and are a major part of the population in the world (V.N et al., 2012). Thus, a part of this research also contributes theoretically to academia by shedding some much needed light into how transformational leadership plays a moderating influence in between technophobia and technology acceptance.

By such situation, although the relationships between the variables in this study have been explored in past researches, the relationships were studied separately and in different contexts. Therefore, a comprehensive research was conducted to study the relationship between technophobia and technology acceptance moderated by transformational leadership.

1.4 Research Questions

This research sought to answer the statements related to the problem. The main questions for this research were:

1. What is the relationship between technophobia and technology acceptance?
2. What is the relationship between transformational leadership and technology acceptance?
3. What is the role of transformational leadership as moderating variable towards the relationship between technophobia and technology acceptance?

1.5 Research Objectives

Based on the problem statement that had been discussed, the objectives of the research were:

1. To study the relationship between technophobia and technology acceptance.
2. To study the relationship between transformational leadership and technology acceptance.
3. To study the role of transformational leadership as moderating variable in the relationship between technophobia and technology acceptance.

1.6 Scope of Study

This research focused on students in Malaysia. The scope of study will pay focus on technophobia as independent variable, technology acceptance as dependent variable and transformational leadership as moderating variable. Therefore, respondents were comprised of students in Universiti Teknikal Malaysia, Melaka (UTeM). Students from UTeM were selected because they came from different states and there was large number of students in UTeM. The scope of study was to study the relationships between technophobia and technology acceptance, transformational leadership and technology acceptance and technophobia and technology acceptance moderated by transformational leadership.

1.7 Limitation of Study

This research was focusing on students in Universiti Teknikal Malaysia, Melaka based on the several threats of limitation of time and financial consideration that would make the importance of the research. This research was conducted by using questionnaires as a research instrument. Besides that, the measurements in this research were based on the items that were adjusted from previous researchers. Although the value of trustworthiness was high, their dishonesty, lack of conscientious responses and differences in understanding when answering the questionnaires could still be out of control.

1.8 Significance of Study

1.8.1 Academic View

Hopefully, this research will improve the understanding of students with their technophobia on technology acceptance. From the accumulated result, we can achieve which technophobia traits that can give overall impact towards the technology acceptance on students. Besides that, the research also tries to identify how transformational leadership influences technophobia on the acceptance of technology of students, specifically in the context of Malaysia itself. If the relationship can be determined, indirectly the acceptance of technology products will be culturally proven in context of Malaysia as these netizens are the future of the country. Furthermore, it can support the various authorities as assistant for the government initiatives towards digital Malaysia.

1.8.2 Practical View

Results from this research can be used by organization management or marketing managers to maximize the aspects that need to be highlighted as well as for creating or moving towards a successful technology-based environment for consumers specifically students. Besides that, this research is one of the efforts to determine the existence of technophobia based on demographics such as age and gender. Students may feel more accepting towards high-technology products when producers adapt the products to their evaluations. By that, this research will be evaluated by consumers so that the accumulated data can be used by companies to create products that better suit and more acceptable for consumers.

1.9 Conceptual and Operational Definition

1.9.1 Technophobia

Technophobia could be defined as the action or behaviour of displeasure toward technologies (M. J. Brosnan, 1998). Technophobia can also be defined as "confirmation of at least one of the following: (a) tension about present or future interactions with computers or computer-related technology, (b) negative worldwide states of mind about computers as well as (c) particular negative perceptions or self-critical internal dialogs during present computer interactions or while mulling over future computer interaction" (Rosen & Weil, 1995). According to Achuonye & Ezekoka (2011), the term technophobia was characterized as dread or aversion of complex gadgets especially computers or other advanced technology. While on the other hand, computer anxiety was defined as the emotional state or condition in an unpleasant state when interacting with computers and internet, technophobia was a bigger concept including aversive behavioural, attitudinal and affective responses to