



***ANTECEDENTS OF ICT MANAGERS' ETHICAL LEADERSHIP AND ITS
INFLUENCE ON EMPLOYEE TURNOVER INTENTION***

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By

RISIDAXSHINNI KUMARUSAMY

**Thesis Submitted to the School of Graduate Studies, Universiti
Putra Malaysia, in Fulfilment of the Requirements for the Degree of
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May 2019

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in
fulfilment of the requirement for the degree of Doctor of Philosophy

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May 2019

Chair : Assoc. Prof. Ho Jo Ann, PhD.
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The Information and Communications Technology (ICT) industry faces serious turnover and leadership issues, especially among the younger generation of employees. While ethical leadership is proven to reduce turnover intention and attract younger employees, little is known about the antecedents to ethical leadership and how this leadership style influences employees' intention to leave. Therefore, this study attempted to establish multilevel antecedents to ICT managers' ethical leadership, which were emotional intelligence and collectivism at the individual level, and ethical climate and person-organisation fit at the contextual level. This study also investigated employee engagement as a mediator between ethical leadership and ICT employees' turnover intention.

Data was collected from a matched sample of 212 managers and 387 of their direct subordinates from Malaysian MSC-status ICT companies, and was analysed using PLS-SEM. The results of the analysis proved that emotional intelligence, collectivism, and person-organisation fit are significant predictors of ethical leadership. Ethical climate was also found to impact ethical leadership, such that benevolent and principled climates significantly improve ethical leadership while egoism climate lowers it. For the ICT industry in particular, this study revealed that ethical leadership is a significant factor that reduces the turnover intention of employees. This study, in addition, established employee engagement as a significant mediating mechanism through which ethical leadership reduces employees' intention to leave.

In short, the current study has expanded the ethical leadership antecedent literature and offers practitioners valuable tools in the selection and development of ethical leaders. It also deepens the understanding of the ways ethical leadership exerts influence on followers, as well as proves ethical leadership's efficacy in reducing the high turnover that is plaguing the ICT industry. Future studies should

explore additional antecedents of ethical leadership as well as its effects on employees in different industries. Finally, the current study confirmed that managers rate themselves higher on ethical leadership measures than employees', making employees' ratings more reliable for empirical research. Thus, multiple sources, as those used in this study (managers and direct subordinates), should be used to reduce single source bias and common method variance in future ethical leadership studies.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**ANTESEDEN KEPIMPINAN BERETIKA PENGURUS ICT DAN
PENGARUHNYA TERHADAP NIAT PUSING GANTI PEKERJA ICT**

Oleh

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Industri Teknologi Maklumat dan Komunikasi (ICT) mengalami isu pusing ganti pekerja dan kepimpinan yang serius, terutamanya di kalangan pekerja generasi muda. Walaupun kepimpinan beretika terbukti mengurangkan niat pusing ganti pekerja dan menarik pekerja muda, anteseden kepada kepimpinan beretika dan cara jenis kepimpinan ini mempengaruhi niat pusing ganti pekerja kurang diketahui. Oleh yang demikian, kajian ini bertujuan menentukan anteseden pelbagai tahap kepada kepimpinan beretika pengurus ICT, iaitu kecerdasan emosi dan kolektivisme pada tahap individu, serta iklim etika organisasi dan kesesuaian pekerja dengan organisasi pada tahap kontekstual. Kajian ini turut menyiasat penglibatan pekerja sebagai pemboleh ubah pengantara antara kepimpinan beretika dan niat pusing ganti pekerja ICT.

Data dikumpul dari sampel sepadan 212 pengurus dan 387 pekerja bawahan pengurus tersebut dari syarikat ICT Malaysia yang berstatus MSC, dan dianalisis menggunakan PLS-SEM. Hasil analisis membuktikan bahawa kecerdasan emosi, kolektivisme, dan kesesuaian pekerja dengan organisasi adalah faktor penentu kepimpinan beretika yang signifikan. Iklim etika organisasi juga didapati mempengaruhi kepimpinan beretika, di mana iklim kebajikan dan iklim prinsip meningkatkan kepimpinan beretika dengan signifikan, manakala iklim egoisme menurunkannya. Khusus kepada industri ICT, kajian ini mendedahkan bahawa kepimpinan beretika merupakan faktor signifikan yang mengurangkan niat pusing ganti pekerja. Hasil penyelidikan ini turut mendapati bahawa penglibatan pekerja ialah mekanisme pengantara yang signifikan melalui mana kepimpinan beretika mengurangkan niat pusing ganti pekerja.

Kesimpulannya, kajian ini telah memperluaskan sastera anteseden kepimpinan beretika dan menawarkan pihak industri kaedah berharga untuk memilih dan menggalakkan pemimpin beretika. Kajian ini juga memberi kefahaman yang

lebih mendalam mengenai cara khusus kepimpinan beretika mempengaruhi pengikut, serta keberkesanan kepimpinan beretika dalam mengurangkan kadar pusing ganti tinggi yang memudaratkan industri ICT. Kajian pada masa depan disyorkan menyelidik anteseden tambahan kepada kepimpinan beretika, di samping kesannya terhadap pengikut di industri-industri lain. Penyelidikan ini turut mengesahkan bahawa pengurus menilai kepimpinan beretika diri sendiri pada tahap yang lebih tinggi berbanding pekerja, lalu penilaian oleh pekerja lebih sah untuk kegunaan kajian empirikal. Oleh itu, pelbagai sumber, seperti yang digunakan dalam kajian ini (pengurus dan pengikut), digalakkan dalam kajian kepimpinan beretika pada masa depan untuk mengelakkan bias sumber tunggal dan varians kaedah lazim.



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This thesis is dedicated to my late grandfather, Paramasivam Pillai.
I hope I've made him proud.

This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

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LIST OF ABBREVIATIONS

ICT	Information and Communications Technology
PO Fit	Person-Organisation Fit
LMX	Leader-Member Exchange
PLS-SEM	Partial Least Squares – Structural Equation Modelling



CHAPTER 1

INTRODUCTION

The rapid development of the Information and Communications Technology (ICT) industry over the past several decades has transformed the business world and will continue to do so for the foreseeable future. It has advanced economic development, enabled global trade, and facilitated unprecedented innovation (CompTIA, 2018). Yet the benefits of fast technological development have come with significant manpower costs for the industry as the demand for ICT talent increases. Multiple studies report that the global ICT industry suffers from disturbingly high employee turnover (e.g. Alias, Noor, & Hassan, 2014; Allen, Armstrong, Reid, & Riemenschneider, 2009; Coombs, 2009; Ghapanchi & Aurum, 2011; Harden, Boakye, & Ryan, 2018; LinkedIn, 2017; Westlund & Hannon, 2008). High turnover does not just incur tangible selection and recruitment costs, but also intangible costs such as reduced employee motivation and the loss of distinct skills and implicit corporate knowledge (Holtom, Mitchell, Lee, & Eberly, 2008; Mete, Sokman, & Biyik, 2016; Owens & Khazanchi, 2011). Therefore, it is now of paramount importance for the ICT industry to identify ways to reduce turnover and retain talented employees.

In this context, ethical leadership has gained significant importance in both academia and industry in recent years. It has been found to reduce turnover (Ahmad, Hasan, & Kaleem, 2018; Elci, Sener, Aksoy, & Alpan, 2012; Lin & Liu, 2017; Ruiz-Palomino, Ruiz, & Martinez, 2011; Tang, Cai, Liu, Zhu, Yang, & Li, 2015) as well as predict beneficial employee outcomes such as follower job satisfaction, organisational commitment, employee voice, citizenship behaviour, job performance, employee engagement, and organisational identification (e.g. Brown & Trevino, 2006; Den Hartog & Belschak, 2012; Lee, Choi, Youn, & Chun, 2017; Ruiz-Palomino, Ruiz-Amaya, & Knorr, 2011; Walumbwa, Mayer, Wang, Wang, Workman, & Christensen, 2011). Such leadership is also influential to the younger generation, who are known to value caring leadership and ethically responsible behaviour from superiors (Andert, 2011; Deloitte, 2015, 2016; Smith & Nichols, 2015). Industry practitioners have called for ethical leadership in ICT organisations as well. In the National ICT Association of Malaysia (PIKOM)'s ICT Strategic Review, PIKOM calls for ethical leadership to lead employees in the current digitalisation transformation era (PIKOM, 2016).

Therefore, as is explained further in Section 1.2, ethical leadership has great potential as a tool to improve turnover rates and retention in the ICT industry, especially among the younger generation. It is thus necessary to know how ethical leadership can be cultivated, as well as how it influences turnover intentions of employees. However, the factors that influence ethical leadership are not well-established in the literature (e.g. Bedi, Alpaslan, & Green, 2016; Eisenberg & Giessner, 2012; Kalshoven, Den Hartog, & De Hoogh, 2011; Ko, Ma, Bartnik, Haney, & Kang, 2018; Lawton & Paez, 2015; Rose, 2016). Similarly,

ethical leadership has scarcely been studied in the context of turnover in the ICT industry, while the mechanisms through which ethical leadership influences employee turnover intention are relatively understudied as well (e.g. Lin & Liu, 2017; Neves & Story, 2015; Tang et al., 2015). To address these issues, the current study solicited a matched sample of managers and employees. Managers were studied to explore two potential individual antecedents to ICT managers' ethical leadership (emotional intelligence and collectivism), as well as two potential contextual antecedents to these managers' ethical leadership (ethical climate and person-organisation fit). Further, this study examined employees to investigate the effect of ethical leadership on turnover intention using employee engagement as a mediator. Finally, the study tested the statistical difference in the ethical leadership ratings of managers and employees to assess the necessity of multi-source data in ethical leadership studies.

This chapter begins with a discussion of the research background and practical issues in the ICT industry. Then, gaps in the literature are addressed in the problem statement section. Research questions, research objectives, and scope of the study are presented in the following sections. Next, it explains the theoretical, managerial, and economic significance of the study. The chapter concludes by providing operational definitions used in the study and detailing the organisation of the remaining chapters.

1.1 Research Background

The term Information and Communications Technology (ICT) industry is an expanded form of the Information Technology (IT) industry. For the purpose of this study, the terms ICT and IT were used interchangeably to similar effect. The ICT industry is generally defined as "an industry that applies scientific and engineering innovation for practical purposes such as creating, storing, processing, and transmitting information, with the process of communication increasingly forming an integral part of the sector" (Institute for Human Rights and Business, 2012). This study used the Malaysian Digital Economy Corporation's (MDEC) categorisation of the ICT industry. The MDEC and its corresponding Multimedia Super Corridor (MSC) initiative divides ICT into three categories: Information Technology, Global Business Services, and Creative Content and Technology. The Information Technology subsector includes firms involved in design, development, maintenance, and marketing of software and hardware products. Next, the Global Business Services subsector involves integrated technological business services that deliver higher value services including IT, human resources, finance and accounting, legal, procurement, business analytics, marketing, and other shared support functions. Finally, the Creative Content and Technology subsector includes technologies and activities involved in the production, delivery, and improvement of digital content, including the development, creation, distribution, and merchandising of IP, as well as the supply of the related technological tools, platforms, and services to support those activities. This study's definition of ICT organisations excluded manufacturing companies involved in the production of goods in large quantities, or trading

companies involved in the activity of buying and selling off-the-shelf hardware and software.

Currently, the global ICT industry is undergoing unprecedented growth. According to the research consultancy IDC, the global information technology market is expected to grow by four to six percent in 2019, pushing the industry past the \$5 trillion mark (CompTIA, 2019). According to IDC's Cyberstates report, the largest tech market in the world is the United States, which represents 31% of the global market, while the ICT industry accounts for a significant portion of economic activity in many other countries as well (CompTIA, 2019). The report also stated that over the past decade, the biggest shift in global industry allocations stemmed from growth of the Asian region, fuelled primarily by the rise of China. This was echoed in Clarivate Analytics's 2017 State of Innovation Report, which found that eight of the top ten organisations in the global ICT sector were from Asia, with a majority being from China (Clarivate Analytics, 2017). Furthermore, the report noted that Asia outperformed North America in its computer-related innovation, with IBM being the only non-Asian company in the top five global ICT innovators.

In the Malaysian setting, the ICT sector is targeted as one of the vital areas responsible for the nation's economic growth, due to its supplementary role in stimulating growth for other industries (Ahmed & Yang, 2017; Alias et al., 2014). The sector's contribution to the national GDP was 18.3% in 2017, an increase of 10.3% from 2016, with 1.09 million individuals employed by the sector (Department of Statistics Malaysia, 2018). Social media, cloud software, and big data is expected to spur further growth of the local ICT industry and position the country as the hub for regional ICT projects in Southeast Asia (PIKOM, 2017). Additionally, 2017 was announced as 'The Year of Internet Economy', outlining five key strategic catalysts: physical microcosms, risk capital funding, connectivity, building of talent pool, and regulatory framework. In fact, the ICT services sector is projected to contribute 48% of Malaysia's economy by 2020 (Khoo, 2016; Ng, 2014).

Multiple national initiatives are also in place to encourage the growth of the Malaysian ICT industry. The Eleventh Malaysia Plan (2016-2020) emphasises driving ICT in the knowledge economy through the development of digital content as well as software solutions and services to enhance competitiveness and wealth creation (Economic Planning Unit, 2017). The Multimedia Development Corporation (MDeC), which spearheads the Digital Transformation Program, aims to transform Malaysia into a knowledge-based economy by 2020 through its Innovative Digital Economy Framework in addition to other efforts (MDeC, 2014). Moreover, the Malaysian government and regulators have played active roles in developing ICT through projects such as Green ICT, Multimedia Super Corridor (MSC), the Digital Free Trade Zone, research universities, and various other ICT communities, thereby recognising the ICT industry as a core player in the country's development.

The ICT industry is also a key employer in the country. Jobstreet, a leading online recruitment company in Asia Pacific, identified the ICT industry as one of the top three hiring industries in Malaysia for three consecutive years, namely 2014, 2015, and 2016 (Jobstreet, 2016). In terms of international recognition, Malaysia has been ranked as the world's third most common IT outsourcing location after China and India for the past ten years (Sethi & Gott, 2016). In addition, Malaysia moved up five notches to number 61 in the ICT Development Index 2016, that captures the level of ICT development in 175 economies worldwide (Kaur, 2017). With this score, Malaysia ranks second in Southeast Asia and eighth in Asia Pacific, primarily attributed to the increase in mobile broadband subscriptions due to the increase in the proportion of individuals using the internet (Kaur, 2017). There is also high demand and dependence on ICT among the general population, especially in urban areas that are developing rapidly (PIKOM, 2017).

Despite the importance of the ICT industry to the global and local economy, the industry faces critical problems in terms of talent retention and poor leadership. These issues will be discussed in depth in the following section.

1.2 Problem Statement

This section examines the research issues that justify the necessity for this study. These issues are discussed from two perspectives, which are practical and theoretical research issues. First, the practical issues in the ICT industry are reviewed, particularly the problems of turnover and leadership in the sector. This is followed by an evaluation of the theoretical issues in the literature that need to be addressed.

In terms of practical issues, the ICT industry faces brazenly high turnover rates, which has been well-established in academia (e.g. Alias et al., 2014; Allen et al., 2009; Coombs, 2009; Ghapanchi & Aurum, 2011; Lo, 2015; Mete et al., 2016; Westlund & Hannon, 2008; Zylka & Fischbach, 2017). Industry reports have revealed similar issues with retention in the industry. A study by LinkedIn in 2017 found that tech companies had the greatest turnover over out of ten sectors that included retail, financial services, and professional services (LinkedIn, 2017). According to PayScale's 2018 employee turnover report, employee retention among Fortune 500 firms in the IT industry was the worst among all industries surveyed (TechRepublic, 2018). Likewise, a 2016 study by consulting firm Tinypulse found that the tech industry had the highest turnover rate of all industries studied, and a majority of employees lacked engagement and would leave their current companies within a year (Tinypulse, 2016). However, despite numerous academic studies (See Section 2.3.1 for review of ICT turnover studies) and industry reports on the topic, the turnover of IT professionals remains a crucial issue (Langove & Isha, 2017; Lo, 2015; Zylka & Fischbach, 2017).

The issue of turnover is prevalent in the Malaysian ICT industry as well. The AON Hewitt consultancy firm found that after India, ICT companies in Malaysia have the highest annual voluntary employee turnover rates in the Asia-Pacific region (Aon Hewitt Singapore, 2016). Surveys conducted by the Ministry of Human Resource (MoHR) (2013) and Malaysian Employers Federation (MEF) (2012) revealed that the ICT sector reported the highest employee turnover rate in Malaysia at 75.72 percent, while the second highest sector's turnover was reported at a much lower rate of 43.32 percent (Ministry of Human Resources, 2013). ICT professionals are also prone to leaving the industry itself and working in a different career altogether (JobStreet.com, 2016). The problem is not new, as in 2009, Ahmad Pharmacy (2009) also found that the ICT industry had the highest employee turnover rate in Malaysia after comparing the employee turnover rate in various industries.

In addition to turnover, the local ICT industry also faces the challenge of talent shortage in the sector. A joint study by Singapore Management University (SMU) and JP Morgan divulged that demand for ICT employees will rise and the labour market may not be able to keep up, with young IT professionals choosing to work in other industries or countries (The Straits Times, 2016). The Malaysian Communications and Multimedia Commission's (2015) Talent Gap study also reported that the pool of talent entering the sector is limited as the sector is thought to be an unexciting career choice for young graduates, leading to a shortage of talent in the sector (Jalil, 2015; MDec & Synovate, 2011). Similar findings were reported by PIKOM's (2017) ICT Job Market Outlook report, which stated that experienced talents are lured away by neighbouring countries and English-speaking countries, while job hopping continues to be a rampant practice especially for the younger generation. It can be concluded that ICT professionals, especially those from younger generations, severely lack engagement in their careers and thus leave the industry with turnover issues.

Turnover can be highly costly for organisations. Gallup estimated that replacing an employee can cost 1.5 times his or her annual salary, while Deloitte found that the cost of losing one employee can range from more than ten thousand dollars, to twice their annual salary, including the costs of re-hiring and training (LinkedIn, 2017). High turnover does not just incur tangible selection and recruitment costs, but also intangible costs such as reduced employee motivation and the loss of distinct skills and implicit corporate knowledge (Holtom et al., 2008; Mete et al., 2016; Owens & Khazanchi, 2011). Particularly in the ICT industry, turnover can have further detrimental effects including knowledge gaps, poorer project performance, higher client costs, decreased productivity, and lower profits (Ladelsky, 2014; Zylka & Fischbach, 2017).

Another practical issue faced by the ICT industry is the issue of leadership. Reasons such as competitive salaries, heavy workloads, long working hours, and stress have been cited as reasons for ICT employees' turnover (Langove & Isha, 2017; Lo, 2015). However, academicians and industry experts have recently revealed that leadership issues may be a contributing factor as well. Studies have found that poor respect, trust, and communication with leaders is

a leading reason for employees to leave the tech industry (Abii, Ogula, & Rose, 2013; Ladelsky & Catana, 2013; McKnight, Phillips, & Hardgrave, 2009). According to Neal (2018), out of more than 2,400 organisations participating in the Global Leadership Forecast 2018, ICT companies reported the lowest success rates for their leaders due to a lack of personal connection between employees and managers. Another study by IT talent management consultancy viGlobal found that a majority of ICT leaders fail to have face-to-face discussions and personal development sessions with their employees, leading to employee attrition (viGlobal, 2018). Similarly, according to The Conference Board's Global Leadership Forecast 2014-2015, the ICT industry's leadership is weaker than other industries in terms of leader development, leader engagement and accountability, and leader preparedness in facing issues of trust and sustainability (The Conference Board, 2015). This sentiment is echoed by Tim Johnson, CEO of a leading digital marketing and IT staffing firm, as he states that despite rising salaries, ICT employees leave due to toxic work environments and employee mistreatment, both of which leaders are responsible for (Johnson, 2018).

In summary, leadership in the ICT industry suffers from a lack of personal connection, trust, accountability, and healthy leader-employee relationships. It thus makes sense that employee turnover is high, because the younger generation, also called Millennials, have been proven to value and expect inspiring, caring, and personal leadership from their managers, as they hold on to the concept that leaders must prioritise employees above others and be responsive to employees' needs (Andert, 2011; Deloitte, 2016, 2018). Since younger employees make up the largest portion of the global ICT workforce (Fry, 2018), and tend to leave organisations if their needs are not met (Deyoe & Fox, 2011; Myers & Sadaghiani, 2010; Smith & Nichols, 2015), it can be deduced that poor leadership is a reason for high employee turnover in the ICT industry.

Therefore, tackling the issue of leadership may be a potential solution to improve retention in the ICT industry. In particular, ethical leadership is highly consistent with the demands for personal connections, accountability, care, and trust from ICT leaders, as ethical leadership is defined as "the demonstration and promotion of ethical and caring behaviour through personal actions, interpersonal relationships, two-way communication, and reinforcement" (Brown, Trevino, & Harrison, 2005, p.120). Similarly, industry experts have suggested that turnover can be reduced through leadership that listens to employees, values them, connects with them, and has open communication with them (Johnson, 2018; viGlobal, 2018), which are all elements of ethical leadership. Further, ethical leadership is needed in the ICT sector as this sector frequently encounters ethical problems such as illegal software, data breaches, hacking, and viruses, which may be mitigated by ethical leaders (Coklar, 2012; Johnson, 2018; Neal, 2018).

Given the aforementioned dilemmas of the ICT industry in terms of high turnover and poor leadership, ethical leadership appears to be a suitable solution to reduce turnover and improve retention of employees in the industry.

Unfortunately, knowledge and adoption of ethical leadership in Malaysian organisations is still scarce (Ahmad & Gao, 2018; Ghahroodi, Mohd Ghazali, & Ghorbhan, 2013; Nazahah, Nurwati, & Othman, 2018; Ponnu & Tenakoon, 2009). Indeed, ethics and ethical behaviour of leaders appears to be an issue in the country, as Malaysia ranked highest in bribery and corruption globally in the Ernst and Young Asia Pacific Fraud Survey 2017, with 80% of Millennials unwilling to work for corrupt companies (Ernst & Young, 2017). Malaysia also dropped to its worst spot at 62 in Transparency International's corruption index 2017 (The Straits Times, 2017). These statistics further exemplify the issue of poor ethical leadership in practice, which has detrimental effects for the ICT industry. Therefore, it is critical that the antecedents to ethical leadership be investigated to promote such leadership in the industry. Subsequently, it is important to understand how ethical leadership can influence the turnover intention of employees to improve retention.

Thus, it is pertinent to review the ethical leadership literature and discuss the theoretical issues in this area. In terms of theoretical issues, several gaps exist in the literature. First, despite the proliferation of literature on ethical leadership in the past decade, there is a dearth of research on antecedents to ethical leadership, as existing studies have focused on the outcomes of this leadership type. Empirical research on individual antecedents is mostly limited to personality traits, such as leaders' agreeableness, conscientiousness, and extraversion (Kalshoven, Den Hartog, & Hoogh, 2011; Walumbwa & Schaubroeck, 2009; Xu, Yu, & Shi, 2011) and morality based traits, such as leaders' cognitive moral development (Jordan, Brown, Trevino, & Finkelstein, 2013) and moral identity (Mayer, Aquino, Greenbaum, & Kuenzi, 2012; Skubinn & Herzog, 2016). At the contextual level, only role modelling (Brown & Trevino, 2014) and social distance (McMillan, Gilley, Caldwell, Heames, & Gilley, 2015; Tumasjan, Strobelt, & Welp, 2011) have been tested as antecedents. This denotes that empirical research on antecedents thus far has primarily focused on the individual morality and personality-based characteristics of the leader, while research on other individual and contextual antecedents is still very rare although leaders' behaviour may be influenced by their external environments (Bedi et al., 2016; Eisenbeiss & Giessner, 2012; Kalshoven et al. 2011; Ko et al., 2018; Lawton & Paez, 2015; Qin, Huang, Hu, Schminke & Ju, 2018).

Therefore, given the significance of understanding what enhances and enables ethical leadership, an increasing number of researchers have called for more empirical studies on the antecedents of ethical leadership (Ahn, Lee, & Yun, 2018; Bedi et al., 2016; Brown & Mitchell, 2010; De Hoogh & Den Hartog, 2008; Eisenbeiss & Giessner, 2012; Frisch & Huppenbauer, 2014; Haar, Roche, & Brougham, 2018; Kalshoven et al. 2011; Ko et al., 2018; Lawton & Paez, 2015; McMillan et al., 2015; Rose, 2016; Tanner, Brugger, Van Schie, & Lebherz, 2010). To address this gap, this study explored multilevel (individual and contextual) antecedents to leaders' ethical leadership. The antecedents are emotional intelligence and collectivism at the individual level, and ethical climate and person-organisation fit at the contextual level. The justifications for the selection of these antecedents is presented in a detailed literature review in Chapter 2.

In addition to a scarcity of research on its antecedents, the ethical leadership literature also lacks an examination of the contexts through which it influences employee turnover intention. Though ethical leadership has been found to predict turnover intention, it has yet to be tested in the context of the ICT industry, which has uniquely high turnover and poor leadership. Studies examining ethical leadership and turnover intention have largely been conducted in the context of the banking and financial industry due to their tendency for ethical misconduct in monetary issues (e.g. Lin & Liu, 2017; Ruiz-Palomino et al., 2011a; Walumbwa & Schaubroeck, 2009) and in general or student contexts (e.g. Babalola, Stouten, & Euwema, 2016; Elci, Sener, Aksoy, & Alpkan, 2012; Wang & Yang, 2016). Furthermore, despite an abundance of literature on turnover in the ICT industry, these studies have focused primarily on job characteristics as predictors of turnover intention among ICT professionals (Harden, Boakye, & Ryan, 2018; Lo, 2015; Zaza & Armstrong, 2016), with leadership largely ignored as a potential solution.

Also, the mechanisms through which ethical leadership reduces turnover intention are in need of further study, as it is still a relatively new avenue of research (Lin & Liu, 2017; Neves & Story, 2015; Shafique, Kalyar, & Ahmad, 2018; Tang et al., 2015; Wang & Yang, 2016). Therefore, this study investigated the mediating effect of employee engagement on the relationship between ethical leadership and turnover intention in the ICT industry to address this gap, as the literature has established the efficacy of engagement in predicting turnover intention (e.g. Agarwal & Gupta, 2018; Halbesleben, 2010; Kim, 2014; Saks, 2006; Schaufeli & Bakker, 2004).

From a methodological perspective, multiple studies have cited single source bias or common method variance in ethical leadership ratings as a limitation (e.g. Bedi et al., 2016; Brown & Trevino, 2014; Ghanem & Castelli, 2019; Mayer et al., 2012; Pucic, 2015). Indeed, self-reporting or social desirability bias is always an issue in ethical leadership studies when managers rate themselves, as leaders' perceptions of their own ethical leadership may not reflect their actual behaviour as perceived by employees (Grobler & Holtzhausen, 2018). According to Brown and Trevino (2006), managers' ratings of their own ethical leadership are dissimilar to ratings obtained from subordinates or superiors, so leaders are likely unable to provide unbiased, valid ratings of their own ethical leadership. Additionally, Ko et al. (2018) and Mayer et al. (2009) found that prior research has rarely compared supervisors' and subordinates' ratings of ethical leadership, which may be contradictory due to supervisors' more favourable self-ratings. As such, it is pertinent to test and confirm that these two groups have significantly different ratings of ethical leadership for the same leader in order to inform the necessity of multi-source data for future studies in the field, as several scholars have called for multi-source data in ethical leadership studies to overcome single source bias yet have rarely tested actual statistical differences between sources' ratings of leadership (Bedi et al., 2016; Brown & Trevino, 2014; Demirtas & Akdogan, 2015; Mayer et al., 2012; Pucic, 2015).

1.3 Research Questions

This study attempted to address the following research questions in the context of the ICT industry:

1. What are the individual and contextual antecedents to managers' ethical leadership?
2. Does ethical leadership affect employee turnover intention?
3. Does employee engagement mediate the relationship between ethical leadership and employee turnover intention?
4. Do managers rate their own ethical leadership higher than their subordinates' ratings?

1.4 Research Objectives

The general research objective of this study was to investigate the antecedents to ICT managers' ethical leadership and its mechanism of influence on employees' turnover intention. The specific research objectives developed to answer the research questions of this study were:

1. To determine the influence of individual antecedents (emotional intelligence and collectivism) on ethical leadership.
2. To determine the influence of contextual antecedents (benevolence, egoism, and principle ethical climates and person-organisation fit) on ethical leadership.
3. To determine the influence of ethical leadership on employee turnover intention.
4. To determine if employee engagement mediates the relationship between ethical leadership and employee turnover intention.
5. To determine if there is a significant difference between self-rated ethical leadership scores of managers and ethical leadership scores of employees.

1.5 Scope of Study

The scope of this study involved ICT managers from Malaysian MSC-status companies and one to two of their direct subordinates. As this study intended to address the issue of ICT employees' turnover, the managers and employees in the study were from IT-related departments in ICT companies and not from administrative departments in the organisation, such as Human Resources, Finance, or Marketing.

Managers were necessary to answer Research Question 1, as they rated themselves regarding the antecedents to ethical leadership: emotional intelligence, collectivism, ethical climate, and person-organisation fit. Meanwhile, the direct subordinates of these managers were needed to answer Research Questions 2 and 3, where they rated their managers' ethical leadership and their own turnover intention and engagement. Finally, both managers and employees were required to answer Research Question 4, as the ethical leadership ratings of the two groups were tested for statistically significant differences.

The use of two sources allowed for a matched sample of managers and subordinates that reduced single source bias and enabled all the research questions to be answered effectively. The number of direct subordinates were limited to a maximum of two to ensure precise matching and analysis of subordinates' data and managers' data as per the research model. Further, direct subordinates were selected for this study, as opposed to indirect subordinates or lower-level employees, because studies have shown that the social distance between managers and their employees have significant effects on the evaluation of ethical leadership, such that direct subordinates evaluate their managers better than indirect ones (McMillan et al., 2015; Tumasjan et al., 2011). Indeed, managers tend to interact more frequently with their direct subordinates, enabling a closer personal relationship and possibly stronger influence on their behaviours and actions.

The respondents for this study were selected from MSC Malaysia status organisations. MSC Malaysia status is an award by the Malaysian government through the Malaysian Digital Economy Corporation (MDeC) for ICT organisations that develop or utilise technologies to produce and improve their products and services (MDeC, 2016). In addition to being consistent with previous studies on Malaysian ICT professionals (Ahmed & Yang, 2017; Omar & Noordin, 2013, 2015), MSC was chosen as the scope of the study because it was the most comprehensive and up-to-date database of ICT organisations in Malaysia. Furthermore, the MSC website provided specific information for each company on its list including the company's core activities, address, and contact details, which facilitated the sampling process.

1.6 Significance of the Study

The following three sections discuss the theoretical, managerial, and economic significance of this study.

1.6.1 Theoretical Significance

This research adds value to the ethical leadership literature in several ways. First, it expands the knowledge on ethical leadership by answering the call of

multiple researchers (Brown & Mitchell, 2010; De Hoogh & Den Hartog, 2008; Eisenbeiss & Giessner, 2012; Haar et al., 2018; Frisch & Huppenbauer, 2014; Kalshoven et al. 2011; Lawton & Paez, 2015; Qin et al., 2018; Tanner et al., 2010) to study further antecedents to ethical leadership. By establishing predictors of ethical leadership at the individual and contextual levels, this study enriches the currently limited research on what makes managers display ethical leadership towards their subordinates. Next, while previous studies on antecedents have focused on personality or morality-based individual traits and follower-based contextual factors, this study introduces multilevel antecedents that address alternate psychological and situational factors affecting leaders. At the individual level, the antecedents are emotional intelligence and collectivism, while at the contextual level, the antecedents are ethical climate and person-organisation fit. It is important to examine ethical leadership from a multilevel perspective as scholars have stressed the significance of organisational and environmental contexts in determining leaders' ethical behaviour in addition to individual factors, yet have not empirically tested these contextual factors (Brown & Trevino, 2006; Eisenbeiss & Giessner, 2012; Frisch & Huppenbauer, 2014).

Second, while the social learning theory and social exchange theory of ethical leadership have generally been used to explain the outcomes of ethical leadership (Bedi et al., 2016), this study extends the use of these underpinning theories by applying them to illustrate the effects of the aforementioned antecedents on ethical leadership as well. Thus, these theories are broadened from explaining how ethical leadership exerts influence, to how ethical leadership is influenced. The current research also expands the application of the social exchange theory to the context of the ICT industry in explaining the effect of ethical leadership on employee turnover intention. Besides these theories, this study introduces the social identity theory and self-concept theory to explain ethical leaders' behaviour, thereby deepening the understanding of ethical leadership development.

Next, this study contributes towards understanding the psychological mechanisms through which ethical leadership influences employees. By studying employee engagement as a mediator between ethical leadership and turnover intention, this study answers the calls of scholars to expand on the underlying mechanisms of ethical leadership, in particular the means through which ethical leadership affects turnover intention (Ahmad et al., 2018; Lin & Liu, 2017; Neves & Story, 2015; Tang et al., 2015; Wang & Yang, 2016). Taken together, this study adds significant value towards the understanding of how ethical leadership influences turnover intention using social exchange processes.

Fourth, the current research further strengthens the literature on ICT industry turnover by introducing ethical leadership as a potential solution to this issue. While previous studies have focused primarily on commitment, skills obsolescence, work overload, and fairness of rewards as predictors of ICT professionals' turnover intention to the exclusion of others (Harden et al., 2018; Zaza & Armstrong, 2016), this study provides a new perspective of leadership

as a retention tool for ICT employees. Furthermore, studies examining ethical leadership and turnover intention have largely been conducted in the context of the banking and financial industry due to their tendency for ethical misconduct in monetary issues (e.g. Lin & Liu, 2017; Ruiz-Palomino et al., 2011a; Walumbwa & Schaubroeck, 2009) and in general or student contexts (e.g. Babalola et al., 2016; Elci et al., 2012; Wang & Yang, 2016). Thus, examining the influence of ethical leadership on turnover intention in the ICT industry context broadens the applicability of ethical leadership theory.

Finally, this study addresses the methodological issue of common method variance in ethical leadership studies by collecting and matching ethical leadership data from two groups: managers and their direct subordinates. Multiple studies have cited single source bias in ethical leadership ratings as a limitation, as leaders' perceptions of their own ethical leadership may not reflect their actual behaviour towards employees (e.g. Bedi et al., 2016; Brown & Trevino, 2014; Mayer et al., 2012; Pucic, 2015). Likewise, Mayer et al. (2009) found that prior research has rarely compared managers' and subordinates' ratings of ethical leadership, which is often contradictory due to supervisors' more favourable self-ratings. Therefore, by studying both managers' and subordinates' matched observations of ethical leadership, this study contributes towards reducing common method variance and single source bias in ethical leadership research.

1.6.2 Managerial Significance

This study has significant practical value for the ICT industry. To begin, it offers ethical leadership as a way to reduce turnover, which is a critical issue faced by ICT organisations. Thus, firms can focus on the recruitment, training, and development of leaders with ethical virtues such as fairness, integrity, truthfulness, justice, and service to the common good, to prevent employees from leaving. In that vein, this study also provides organisations with specific tools to enable and enhance ethical leadership, particularly emotional intelligence, collectivism, person-organisation fit, and ethical climates. Companies in the industry may thus focus their selection, recruitment, and training efforts on these areas to enhance ethical leadership.

In addition, this study contributes towards the attraction, engagement, and ultimately retention of the younger generation of ICT employees who desire more caring and interpersonal leadership. By testing the effectiveness of ethical leadership in reducing turnover by way of employee engagement, this research informs practitioners on the viability of using ethical leadership and engagement as potent tools to reduce the job-hopping and disloyal tendencies of the younger ICT workforce.

From a policy-making perspective, this research contributes by establishing the importance of ethical leadership in ensuring the success of the ICT industry and the Malaysian economy. As mentioned in Section 1.1, although the Malaysian government has several initiatives in place to support the expansion of the ICT industry, the sector is plagued by issues of turnover and poor leadership. This study offers ways for the government to improve the leadership in the industry and reduce turnover, by promoting ethical leadership in its national policies, incentive schemes, training programs, and other such government programs.

1.6.3 Economic Significance

As discussed previously, the ICT industry faces high turnover rates (e.g. Alias et al., 2014; Allen et al., 2009; Coombs, 2009; Ghapanchi & Aurum, 2011; Lo, 2015; Mete et al., 2016; Westlund & Hannon, 2008), which has negative economic implications for organisations. Turnover can decrease firm performance, productivity, efficiency, and profits (Chang, Wang, & Huang, 2013; Zimmerman & Darnold, 2009). In fact, The Society for Human Resource Management (SHRM) finds that the total costs of replacing employees range from 90% to 200% of their annual income, with the cost to replace an individual employee at approximately 20% of their salary (Tinypulse, 2016).

Therefore, this study has the potential to help ICT organisations reduce the massive cost associated with turnover by positing ethical leadership as an effective tool to attract, engage, and retain employees. It educates companies on the profitability of ethical leadership, especially in terms of attracting and retaining the younger generation by increasing their engagement. Indeed, Kumar and Pansari (2015) stated that increased engagement levels resulted in a 19% increase in earnings per share, while a Gallup study showed that work engagement was responsible for 78% of the difference in profitability across 17,339 business units (Harter, Schmidt, Killian, & Agrawal, 2009). Further, organisations with more engaged employees had a 94% greater success rate within their own organisations and a 145% greater success rate across organisations (Messer, 2017). Thus, by proving the efficacy of ethical leadership in reducing turnover through engagement, and highlighting ways to develop ethical leaders, this study has significant economic benefits for the global and local ICT industry. Consequently, this will boost national and global economies which are increasingly dependent on the ICT sector (CompTIA, 2019).

1.7 Operational Definitions

To assist in the understanding of terms used in this research, the following operational definitions are presented:

Ethical Leadership: “The demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making” (Brown et al., 2005, p.120)

Emotional Intelligence: A set of interconnected abilities possessed by individuals to deal with their emotions (Wong & Law, 2002)

Collectivism: A set of values, norms, and beliefs that reflect the idea that every individual in a society is born to be connected with one another (Triandis, 1994)

Ethical Climate: “Those aspects of work climate that determine what constitutes ethical behaviour at work” (Victor & Cullen, 1988, p. 101). *Egoistic climates* are driven by self-serving concerns to maximise financial profits regardless of the cost to others; *Benevolence climates* are driven by altruistic and utilitarian ideals at every reference point; *Principle climates* are driven by rules, laws, and codes as reference points (Victor & Cullen, 1988).

Person-Organisation Fit: The degree of congruence between individuals’ values, beliefs, and attitudes and the values and characteristics of the organisation (Cable & Judge, 1996)

Turnover Intention: The deliberate and conscious wilfulness to leave one’s organisation (Tett & Meyer, 1993)

Employee Engagement: “A positive, fulfilling, work-related state of mind characterised by vigor, dedication, and absorption” (Schaufeli, Salanova, Gonzalez-Romá, & Bakker, 2002, p.74).

1.8 Organisation of the Chapters

This dissertation consists of six chapters. Chapter One provides an introduction to the research, which includes the research background, problem statement, research objectives, research questions, managerial and theoretical significance, operational definitions, and research organisation.

Chapter Two presents a review of the relevant literature on the research topic of ethical leadership. It covers the theories, antecedents, outcomes, and mediators involving ethical leadership, in particular those being examined in the current study. The chapter concludes with a summary of identified theoretical gaps based on the literature review.

Chapter Three lays out the conceptual framework of the research. Based on the literature review, the theoretical framework and hypotheses of the research are developed and explained in this chapter.

Chapter Four explains the methodology employed in this research, specifically the research philosophy, research design, population and sample, sampling procedure, data collection, questionnaire design, and data analysis procedure.

Chapter Five presents the results of the study, specifically respondents' demographic profiles, descriptive analysis results, measurement model analysis results for both reflective and formative constructs, structural model analysis, mediation effect assessment, and independent sample t-test assessment. The chapter ends by summarising the hypotheses results based on the findings.

Chapter Six concludes this paper with a discussion of the findings, followed by the theoretical and managerial contributions of the study. Finally, the limitations of the study and suggestions for future research are presented.

1.9 Chapter Summary

This chapter presented the background of this study as well as its objectives and significance to both academicians and practitioners. To address the high turnover in the ICT industry and the gaps in ethical leadership literature, this study investigated multilevel antecedents to ICT managers' ethical leadership and its influence on employees' turnover intention as mediated by employee engagement. This foundation of the study guided the following chapters of this research to ensure the objectives were achieved.

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