Universiti Utara Malaysia

DETERMINANTS OF VOLUNTARY TAX COMPLIANCE INTENTION FOR E-FILING AMONG SALARIED TAXPAYERS

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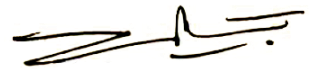|		
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ABSTRACT

Generally, worldwide tax administrators including the Inland Revenue Board of Malaysia (IRBM) are facing difficulties in addressing tax compliance complexity that is proven to be highly challenging. Numerous innovative efforts, including the e-filing system - a costly investment, initiated by the IRBM to encourage compliance. However, these efforts failed to achieve the targeted compliance outcome, the taxpayers' behavioural intention remains unclear especially salaried taxpayers. This study investigates the voluntary tax compliance intention among salaried taxpayers in Klang Valley. It aims to identify the determinants and their dimensions of the voluntary tax compliance intention via the e-filing system. Furthermore, an examination was performed on the applicability of Decomposed Theory of Planned Behaviour in voluntary tax compliance intention setting. Based on the data collection on 20 participating headquarter offices, 303 usable responses were obtained and empirically tested for this study. The samples tested, using Smart PLS 3.2.8, found that the decomposed constructs presented a better explanatory power for behavioural intention. Most of the dimensions and constructs were proven to be significant. Where dimensions like general tax filing knowledge and perceived usefulness were found to be significant towards attitude. While peer influence and mass media referent were significant towards the subjective norm. Furthermore, facilitating conditions and ability to pay were also significant towards perceived behavioural control. In contrast, dimensions like perceived ease of use and compatibility were not significant towards attitude. While self-efficacy was not significant towards perceived behavioural control. The subjective norm construct was also found to be insignificant towards intention. Overall, the findings have theoretical and practical impact, particularly to the tax administrators, in understanding the changes in salaried taxpayers voluntary tax compliance behavioural intention. Therefore, this study has created a platform for further studies with various available options of dimensions.

Keyword: Voluntary tax compliance intention, Decomposed Theory of Planned Behaviour, general tax filing knowledge, mass media referent, ability to pay.

ABSTRAK

Secara amnya, pentadbir cukai di seluruh dunia termasuk Lembaga Hasil Dalam Negeri Malaysia (LHDNM) masih menghadapi kesukaran dalam menangani kerumitan pematuhan cukai yang terbukti sangat mencabar. Pelbagai usaha inovatif, termasuk sistem e-filing yang melibatkan sejumlah pelaburan besar, dipilih oleh LHDNM untuk mendorong pematuhan. Namun, usaha ini tidak menghasilkan tahap kepatuhan yang diinginkan kerana niat tingkah laku pembayar cukai masih diragukan terutama pembayar cukai berpendapatan penggajian. Kajian ini menyiasat niat pematuhan cukai secara sukarela dalam kalangan pembayar cukai berpendapatan penggajian di Lembah Klang. Kajian cuba mengenal pasti penentu dan dimensinya terhadap niat pematuhan cukai sukarela melalui sistem e-filing. Di samping itu, kajian ini juga meneliti kebolehlaksanaan Teori Tindakan Terancang Terurai dalam penetapan niat pematuhan cukai sukarela. Pengumpulan data dari 20 pejabat ibu pejabat yang mengambil bahagian telah memperoleh 303 maklum balas yang dapat digunakan untuk diuji secara empirik bagi tujuan kajian ini. Sampel yang diuji menggunakan Smart PLS 3.2.8 mendapati bahawa konstruk yang terurai memberikan daya penjelasan yang lebih baik ke atas niat tingkah laku. Sebilangan besar dimensi dan konstruk terbukti signifikan. Dimana dimensi seperti pengetahuan umum pemfailan cukai dan kegunaan yang dirasakan didapati signifikan terhadap sikap. Manakala, pengaruh setara dan rujukan media massa adalah signifikan terhadap norma subjektif. Tambahan pula, kemudahan dan kemampuan untuk membayar juga signifikan terhadap kawalan gelagat yang dirasakan. Sebaliknya, dimensi seperti kemudahan penggunaan dan keserasian yang dirasakan tidak signifikan terhadap sikap. Sementara efikasi kendiri tidak signifikan terhadap kawalan gelagat yang dirasakan. Norma subjektif konstruk juga didapati tidak signifikan terhadap niat. Pada keseluruhannya, penemuan ini semestinya memberikan impak secara teori dan praktikal, terutamanya kepada pentadbir cukai, dalam memahami perubahan niat tingkah laku pematuhan cukai sukarela oleh pembayar cukai berpendapatan penggajian. Oleh itu, kajian ini menyediakan platform untuk kajian lanjutan dengan pelbagai pilihan dimensi yang ada.

Kata kunci: Niat kepatuhan cukai secara sukarela, Teori Tindakan Terancang Terurai, pengetahuan pemfailan cukai umum, rujukan media massa, kemampuan untuk membayar.

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LIST OF ABBREVIATIONS

AIPM	:	Prime Minister's Innovation Award
AMLATFPUAA	:	Anti-Money Laundering, Anti-Terrorism Financing and Proceeds of Unlawful Activities Act
AMOS	:	Analysis of a Moment Structures
ATO	:	Australian Tax Office
ATP	:	Ability To Pay
ATT	:	Attitude
AVE	:	Average Variance Extracted
BISEP	:	Business, Industry, Sociological, Economic and Psychological
BTOS	:	Bartlett's Test of Sphericity
CBSEM	:	Covariance Based Structural Equation Modelling
CFA	:	Confirmatory Factor Analysis
COMP	:	Compatibility
CR	:	Composite Reliability
DGIR	:	Director General of Inland Revenue
DOI	:	Diffusion of Innovation
DTPB	:	Decomposed Theory of Planned Behaviour
EFA	:	Exploratory Factor Analysis
EPF	:	Employees Provident Fund
FC	:	Facilitating Conditions
GoF	:	Goodness of Fit
GST	:	Goods and Services Tax
GTK	:	General Tax Filing Knowledge
HTMT	:	Heterotrait-Monotrait Ratio
ICSF	:	Integrated Compliance and Service Framework
INT	:	Voluntary Tax Compliance Intention
IRBM	:	Inland Revenue Board of Malaysia
IRAS	:	Inland Revenue Authority of Singapore
IS	:	Information System
IT	:	Information Technology
ITA	:	Income Tax Act
KMO	:	Kaiser-Meyer-Olkin
LISREL	:	LInear Structural RELations
MM	:	Motivational Model
MMR	:	Mass Media Referent
MTD	:	Monthly Tax Deduction
NRI	:	Network Readiness Index
OAS	:	Official Assessment System
OTFPS	:	Online Tax Filing and Payment System
PBC	:	Perceived Behavioural Control
PCUM	:	Personal Computer Utilisation Model
PEMANDU	:	Performance Management and Delivery Unit
PEOU	:	Perceived Ease of Use
PI	:	Peer Influence
PLS-SEM	:	Partial Least Squares – Structural Equation Modelling
PU	:	Perceived Usefulness

SAS	: Self-Assessment System
SCT	: Social Cognitive Theory
SE	: Self-Efficacy
SEM	: Structural Equation Modelling
SME	: Small Medium Enterprise
SN	: Subjective Norm
STD	: Schedular Tax Deduction
STDEV	: Standard Deviation
TAM/TAM2/TAM3	: Technology Acceptance Model/ Technology Acceptance Model 2/ Technology Acceptance Model 3
TPB	: Theory of Planned Behaviour
TRA	: Theory of Reasoned Action
UTAUT/ UTAUT2	: Unified Theory of Acceptance and Use of Technology/ Unified Theory of Acceptance and Use of Technology 2
VBSEM	: Variance Based Structural Equation Modelling
VIF	: Variance Inflation Factor
YoY	: Year on Year
α	: Cronbach Alpha
f^2	: Effect Size
R^2	: Coefficient of Determination
Q^2	: Cross-Validated Redundancy

CHAPTER 1

INTRODUCTION

1.1 Background of Studies

In general, tax compliance is a significantly complex and serious issue on the global level, including Malaysia (Oh & Lim, 2011). Tax compliance has been a subject examined in various studies worldwide, such as the studies by Alm, Cherry, Jones, and McKee (2010), Alm, Sanchez, and De Juan (1995), Andrei, Comer, and Koehler (2014), Ho and Wong (2008), Lee (2016), McKerchar (2001), and Torgler (2002). Changes in the tax administrations have been made to accommodate taxpayers, particularly individual taxpayers for the submission of tax returns voluntarily by providing effective, efficient, and convenient services. Hence, many countries have shifted to Self-Assessment System (SAS), such as Australia in 1986 (Kenny, 2003), while Canada and the United States were the earliest countries with SAS implementation in the 1910s, followed by Ireland (1988), New Zealand (1988), and the United Kingdom (UK) in 1996-97. Whereas, countries in Asia including Japan implemented SAS in 1947, including Sri Lanka (1972), Pakistan (1979), Bangladesh (1981), and Indonesia (1984) (Okello, 2014). However, many tax authorities are still faced with difficulties in motivating taxpayers to comply with the tax laws (James & Alley, 2004).

Tax compliance generally refers to the willingness to report and pay the taxes according to the tax laws (Alm, 1991; Boll, 2014; Helhel & Ahmed, 2014; Palil, Mustapha, & Mohd Rizal Palil, 2011), which is also applicable to Malaysian taxpayers. According

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to the Income Tax Act 1967 (ITA 1967), taxpayers are required to furnish their income tax prescribed form to the Director-General of Inland Revenue (DGIR) annually under Section 77(1) of the ITA 1967. This is followed by fulfilling the payment of tax, which is payable under Section 103 of the ITA 1967 on the due date outlined under Section 103(12) of the ITA 1967.

Several studies in Malaysia, including the studies by Che Azmi, Zainuddin, Mustapha, and Nawi (2016), Hajah Mustafa (1996), Lai and Choong (2009), Loo, Evans, and Mckerchar (2010), Mohdali, Mohd Isa, and Yusoff (2014), Saad (2014), and Sia (2008) highlighted the importance of tax compliance issues. Substantial changes were made to the Malaysian tax system from the official assessment system (OAS) to the SAS since the assessment year of 2001. During this period, the first introduction of SAS for companies was made. SAS for individuals was introduced in the year of assessment 2004. The changes in the tax system showed the need for understanding the significant factors leading to the increase in compliance rates.

In the SAS era, understanding of the taxpayers' behaviour is important for the government and its tax administrators to maximise voluntary tax compliance (Devos, 2014). Devos added that the magnitude of noncompliance measurement, be it intentionally or unintentionally, could be challenging as the level of uncollected taxes could only be estimated by tax administrators. Taking the SAS implementation in Malaysia into account, the unintentional tax noncompliance problem has become more significant (Oh & Lim, 2011). Malaysia has been frequently updating and innovating the tax delivery systems through efficient, effective, and convenient services for all taxpayers. This action is performed through the facilitation of electronic services,

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particularly the e-filing systems (Ambali, 2009; Connolly, Bannister, & Kearney, 2010; Lai & Choong, 2008a; Teo & Wong, 2005) that ease the income tax return form submissions with fast processes without requiring the computation of the tax payables.

The observation and inference of the difficulties of tax noncompliance behaviour have resulted in the limitations in the analysis of empirical tax noncompliance behavioural phenomenon, which would bring an impact on the government revenue, loss of efficiencies, and equity (Fox, Luna, & Schaur, 2014). Thus, the increase in tax compliance and decrease in tax noncompliance behaviour would reduce the distortion of the economic growth in a country. The development of a country economy is majorly based on the government total income tax collection, which is made either from direct taxes of individuals or companies (Abdullah et al., 2014), indirect taxes such as duties, sales, and services tax, and goods service tax based on the government policy.

In any country including Malaysia, tax administrators mainly aim to improve voluntary tax compliances. To achieve this vision, the Inland Revenue Board of Malaysia (IRBM) includes the phrase "*to provide excellent tax services by improving voluntary compliance*" as one of its corporate mission (IRBM, 2017 p. 17). The objective of the majority of tax administrators objective is to achieve maximum tax compliance (James & Alley, 2004; Pickhardt & Prinz, 2014; Prinz, Muehlbacher, & Kirchler, 2014). Meanwhile, the importance of understanding the current tax compliance behaviour of income tax form submission would offer an advantage towards increasing the compliance rate.

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With further advancement of technologies, tax administrators including IRBM have made effort towards being continuously updated and well equipped after the increase in the number of delinquent taxpayers (Kasipillai & Mohd Hanefah, 2000). Hence, IRBM has introduced the electronic mode of income tax form submission as tax compliance facilities, such as e-filing and e-payment system to improve tax payment compliance (IRBM, 2005, p. 18). This initiative earned them the Prime Minister's Innovation Award (AIPM) 2009 in 2010 (IRBM, 2011). However, even with the advancement of available facilitating systems, the desired outcome from the maximised voluntary tax compliance in terms of income tax form submission is far from the satisfactory level.

Despite the compliance facilitation of the e-filing system, the increase in the number of e-filing users does not reflect the increase in the overall compliance rate in terms of income tax form submission. In the case of individual taxpayers with employment income, who are also required to file Form BE, Table 1.1 demonstrates the decrease in compliance rate since 2014 to a lower rate of 49.54% in 2017. Although the total Form BE e-filers increased from 2.058 million (2014) to 2.65 million (2017), the percentage of income tax form compliance was reduced from 54.03% (2014) to 49.54% (2017). The decrease in compliance provides the basis to re-examine the factors that influence voluntary compliance behaviour, especially among salaried taxpayers.

It is clear that the submission of income tax forms via the e-filing system is preferred among salaried taxpayers with 96.88% of complied salaried taxpayers, who submitted their income tax form via the e-filing system in 2017. Since 2014, IRBM has been achieving more than 90% of e-filers among total tax filers, which was in line with their

achievements in other developed countries, including the US (Apostolou, Dorminey, & Schaupp, 2016), United Kingdom (Lymer, Hansford, & Pilkington, 2012) and Taiwan (Chen, 2010). However, the overall results remain unsatisfactory upon the comparison between total voluntary tax compliance in terms of income tax form submission and the total numbers of active taxpayers. In the year 2017, the total e-filing rate amounted to 47.99% of the total active taxpayers that file the Form BE. It was indicated from the statistics that even with the facilitation to ease the income tax filing method via e-filing system, 50.46% of active taxpayers did not comply with the tax laws of income tax form submission. This situation raised the issue of the determinants of voluntary compliance behaviour, with facilitations of systems taken place to ease the submission of forms. However, the taxpayers may not wish to comply voluntarily.

The significance of e-filing system acceptance among individual taxpayers reduced the number of manual filers. However, this result was not adequate to be measured with the increase in total active taxpayers, as shown in Table 1.1. The individual taxpayers, particularly the Form BE, are tax filers who have the tendency to complete their income tax returns on their own without the assistance of tax agents (Palil et al., 2011; Trivedi, Shehata, & Lynn, 2003). As a result, taxpayers require further assistance or other referral sources to obtain knowledge for self voluntarily compliance.

Table 1.1:
Summary of Compliance Rate

DETAILS		YEAR					
		2012	**2013**	**2014**	**2015**	**2016**	**2017**
FORM BE	*Total Active Files*	**4,473,387**	**4,366,196**	**4,640,605**	**4,972,218**	**5,222,057**	**5,536,265**
	Manual Filing	*413,987*	*300,705*	*208,978*	*164,161*	*116,842*	*85,686*
	E-Filing	*1,861,548*	*2,058,395*	*2,272,101*	*2,390,146*	*2,507,841*	*2,657,015*
	Total Numbers of Form BE Filed	**2,275,535**	**2,359,100**	**2,481,079**	**2,554,307**	**2,624,683**	**2,742,701**
	Percentage of Compliance	*50.87%*	*54.03%*	*53.46%*	*51.37%*	*50.26%*	*49.54%*

Source: Tax Operation Department, IRBM

Following the introduction of e-filing, IRBM has been achieving a significant increase in the number of e-filing acceptance. However, the achievement is yet to be commensurate with achieving a higher voluntary compliance rate. The statistics in Table 1.2 demonstrate that the year-on-year (yoy) increment of Form BE filed is precisely below 38% of the overall increment in newly registered individual taxpayers with employment income. Based on the presumption regarding all previous year taxpayers who filed the Form BE in 2017, the increment of 118,018 new Form BEs for the assessment year of 2017 was filed over the total increase in 314,208 newly registered active individuals with employment income files. This condition could represent the compliance gap, which should be investigated further to improve the understanding regarding taxpayers' voluntary compliance behaviour. Additionally, the current facilities and education programs may need to be re-examined by considering the current economic scenario, technological usage trend, and individual taxpayers' behaviour.

Table 1.2:
Summary of Year on Year (YoY) Compliance Rate

	DETAILS	YEAR			
		2014	2015	2016	2017
FORM BE	*Total Active Files*	**4,640,605**	**4,972,218**	**5,222,057**	**5,536,265**
	YoY Increment	*274,409*	*331,613*	*249,839*	*314,208*
	Total No. of Form BE Filed	**2,481,079**	**2,554,307**	**2,624,683**	**2,742,701**
	YoY Increment	*121,979*	*73,228*	*70,376*	*118,018*
	Percentage of compliance based on YoY increment	*44.45%*	*22.08%*	*28.17%*	*37.56%*

Source: Tax Operation Department, IRBM

As shown in Table 1.3, the initiatives by IRBM have been detecting non-compliant taxpayers through the collection of over RM127 million in late submission penalties since the year 2012. However, 5.06% out of 50.46% of the total noncompliant individual taxpayers with employment income, which was represented through the number of Form BE filed, were identified in 2017. The noncompliant detection collected a total of RM175 million of late submission penalties, which were imposed in 2017. These statistics have proven that although a high amount of taxes forgone in the past has been collected, a larger portion of uncollected taxes is present, with the remaining 45.4% of noncompliance being unidentified. The determinants should be re-examined to encourage and improve voluntary compliance among individual taxpayers by incorporating current technology usage trends and the economic conditions of the taxpayers.

The failure to furnish income tax return forms under Section 112 of ITA 1967 has been identified as one of the serious offences under Schedule 2 of Anti-Money Laundering, Anti-Terrorism Financing and Proceeds of Unlawful Activities Act 2001 (AMLATFPUAA 2001) (IRBM, 2013b). Furthermore, IRBM (2013b) stated that

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taxpayers may be subject to a fine of not more than RM5 million or imprisonment of not more than five years or both if convicted. Given the hefty AMLATFPUAA 2001 penalty due to the noncompliance with the predicate offence under Section 112 of ITA 1967, the noncompliant behaviour should not be taken lightly. However, the hefty penalty does not deter individuals from their noncompliance with the ITA 1967 by submitting their income tax returns on time. This condition is indicated through the decreasing number of submitted income tax forms (Table 1.1).

Table 1.3:
Number of Cases with Penalty under Section 112 ITA 1967

DETAILS		YEAR					
		2012	**2013**	**2014**	**2015**	**2016**	**2017**
	Total Active Files	**4,473,387**	**4,366,196**	**4,640,605**	**4,972,218**	**5,222,057**	**5,536,265**
FORM BE	**Total Numbers of Form BE Filed**	**2,275,535**	**2,359,100**	**2,481,079**	**2,554,307**	**2,624,683**	**2,742,701**
	Number of Cases	338,396	326,267	616,455	293,917	363,572	279,864
	% of Cases with Penalty Sec. 112 ITA 1967 imposed	*14.87%*	*13.83%*	*24.85%*	*11.51%*	*13.85%*	*10.20%*
	Amount of Penalty (RM)	*127,727,951*	*134,924,231*	*270,290,278*	*176,561,996*	*175,598,465*	*172,724,246*

Source: Tax Operation Department, IRBM

The initiatives to simplify the submission of income tax return forms by individual taxpayers with employment income has been facilitated by IRBM through the introduction of Monthly Tax Deduction (MTD) as the final tax, with some required conditions to be fulfilled. The IRBM introduced MTD as the final tax since the year 2014 to eliminate the requirements for filing income tax return forms (Goh, 2014; PWC, 2015). In this case, individual taxpayers with maintained salaried sourced income may choose to not file the income tax return forms with several requirements to be met

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before the election is made (Goh, 2014; IRBM, n.d.; PWC, 2015). However, Table 1.4 demonstrates that the number of individual taxpayers who applied for the option was less than 13% of the total active taxpayers, which ranged from RM1.1 million to RM1.4 million of MTD as the final tax since the year 2014. Regardless of the high number of individuals who might have more than one source of income, the question arises regarding whether the majority of individuals who received income from employment were informed of the requirements to elect MTD as final tax. To illustrate this point, any default may result in penalty under Section 112 ITA 1967, which is imposed for noncompliance with the requirements.

Table 1.4:
Total Number of Monthly Tax Deduction (MTD) as the Final Tax

DETAILS	YEAR					
	2012	2013	2014	2015	2016	2017
Total Numbers of SG files	**4,473,387**	**4,366,196**	**4,640,605**	**4,972,218**	**5,222,057**	**5,536,265**
Total Number Cases of MTD as Final Tax	*Nil*	*Nil*	613,701	530,307	506,698	*563,823*
Number Cases of MTD as Final Tax / Number of SG Files	*Nil*	*Nil*	*13%*	*11%*	*10%*	*10%*
Total Amount of MTD as Final Tax (RM'million)	*Nil*	*Nil*	1,353.24	1,444.47	1,144.28	*n/a*

Source: Tax Operation Department, IRBM
Note: *n/a – not available*

The success of SAS is dependent on the full voluntary cooperation by taxpayers with tax literacy as the core of compliance (Choong & Wong, 2011). Meanwhile, the individual taxpayers have the tendency for self-completing the income tax returns without engaging tax agents compared to corporate taxpayers (Palil et al., 2011; Trivedi et al., 2003). Previous studies presented the importance of continuously educating the taxpayers and imparting tax knowledge, especially to future taxpayers to increase voluntary compliance (Choong & Wong, 2011; Lai, Zalilawati, Mohd Amran, &

Choong, 2017; Palil, 2010). However, with the ever-increasing numbers of registered individual taxpayers, the role of educating taxpayers may change according to the current technological trend.

Nevertheless, IRBM constantly disseminated tax knowledge by educating taxpayers through various slots of seminars, tax briefings, and collaborative programmes via governmental agencies, universities, and other trade and non-trade organisations (IRBM, 2017b). However, the programmes conducted in the year 2016 only engaged a total of 22,268 participants (IRBM, 2017b). As shown in Table 1.5, the limited number of participants presented the importance of understanding the taxpayer's requirements to obtain specific tax knowledge and information. However, the effectiveness of these programmes was not in line with the purpose of the intended individuals, given that the number of compliance rate was not commendable, as shown in Table 1.1. Most of these programmes involved the selected and targeted representatives of taxpayers who were mostly tax agents, staff of organisations, students, and professionals. In this case, the information obtained from the programmes might not be sufficient to reach the intended individual taxpayers.

Table 1.5:
Total Number of Tax Education Programmes in the Year 2016

Events	No. of Participants
Tax Briefings	6,209
Collaborative Programmes	2,296
Tax Seminars	10,364
Love Your Nation with Civil Servant Programme	238
Business Support Services Training Programme	1,723
Visits by University Students and External Agencies	1,033
EY YTPY Programme	405
Total Numbers of Participants	**22,268**

Source: IRBM Annual Report 2016 (IRBM, 2017)

The programmes were conducted to instil tax compliance responsibilities towards sustainable voluntary tax compliance. The IRBM developed tax knowledge for future generations through the establishment of the KidZania Tax Office in KidZania Kuala Lumpur, which offers real-life role-playing experiences for the children to learn and work as tax assessment officers with the title of Junior Tax Officer. Notably, IRBM is the first Malaysian governmental agency to become the partner of KidZania Kuala Lumpur that develops the understanding of the importance of tax collection for the country development while instilling tax awareness to build the young generations into the nation's responsible citizens (IRBM, 2016a). Besides, the engagement and involvement of prominent artists are also applied to influence other fellow artists and the general public through briefings and campaigns at numerous locations, which are tailored to cater for the vast scope of audiences from different age groups and backgrounds (IRBM, 2016a).

Various education through mass media campaigns was conducted through sessions of interviews and advertisements on the television, radio station, magazines, newspapers, online, banners, text crawlers, and advertorials (IRBM, 2017b). The focus was placed on whether the advertisements or interviews conducted through mass media are well received by the taxpayers or whether these campaigns provide sufficient information required for taxpayers to comply with the tax laws voluntarily. However, little information was present on whether taxpayers use the mass media advertisements as a referent that could influence them into complying voluntarily. The following Table 1.6 presents the number of advertisements or interviews conducted.

Table 1.6:
Total Number of Corporate Advertising

Types of Corporate Advertising	No. of Advertisements /Interviews
TV Advertisements	873
Radio Advertisements	1,726
Magazine Advertisements	13
Newspaper Advertisements	87
Digital Advertisement (Online/LED Screen) & PLUS Toll Plaza Banners	7,454
Text Crawler	291
Advertorials	18
Newspaper /Magazine Interviews	3
TV /Radio Interviews	26
Total Numbers of Advertisements /Interviews	**10,491**

Source: IRBM Annual Report 2016

Table 1.7 illustrates the number of voluntary tax compliance among Malaysian taxpayers, including the total number of Form BE filed among salaried taxpayers against the number of non-compliant cases that represent voluntary tax filing declarations. Despite all the initiatives and programmes by IRBM, the number of voluntary tax compliance has been below 47% since 2012 compared to total active files. Throughout the years, IRBM has also increased collection cost efficiency from RM0.85 (2012) to RM1.75 (2017) to recover tax arrears amounting to RM6.7b (2017). The arrears and collection cost-efficiency indicate the costs for recovering the tax arrears. Therefore, the financial ability to pay tax dues may require further understanding.

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Table 1.7:
Overview of the Number of Voluntary Tax Compliance and Collection Cost Efficiency

	DETAILS	YEAR					
		2012	**2013**	**2014**	**2015**	**2016**	**2017**
FORM BE	***Total Active Files***	**4,473,387**	**4,366,196**	**4,640,605**	**4,972,218**	**5,222,057**	**5,536,265**
	Total Numbers of Form BE Filed	**2,275,535**	**2,359,100**	**2,481,079**	**2,554,307**	**2,624,683**	**2,742,701**
	Number of Non-Compliant Cases	338,396	326,267	616,455	293,917	363,572	279,864
	Voluntary Compliance	*1,937,139*	*2,032,833*	*1,864,624*	*2,260,390*	*2,261,111*	*2,462,837*
	% Voluntary Compliant	*43.30%*	*46.56%*	*40.18%*	*45.46%*	*43.30%*	*44.49%*
	#Previous Debit Arrears (RM)	*7,470m*	*6,584m*	*5,937m*	*6,892m*	*5,702m*	*6,738m*
	#Collection Cost Efficiency(RM)	*0.85*	*1.03*	*1.03*	*1.19*	*1.59*	*1.75*

Source: Tax Operation Department, IRBM; # IRBM Annual Report (2012-2017)

Although various actions and campaigns by IRBM have been focusing on the objective of achieving a higher voluntary compliance rate, the statistics displayed unfavourable results. Therefore, a re-examination of the voluntary tax compliance behaviours of individual taxpayers is vital in achieving IRBM main objective of increasing voluntary tax compliance. However, in achieving a higher compliance rate, the significance of the e-filing system role could not be eliminated although the usage is not mandatory compared to corporate tax filings. This aspect is vital, considering that the individual taxpayers' behaviour would indirectly affect their tax compliance decisions, particularly in their decision in managing corporate taxes or other forms of taxes.

1.2 Problem Statement

In the era of SAS, tax compliance has become increasingly important for tax administrators to achieve their objective of maximising tax compliance (James & Alley,

2004; Pickhardt & Prinz, 2014; Prinz et al., 2014). Furthermore, SAS for an individual taxpayer is based on the voluntary tax compliance principle, which is expected to improve taxpayer's compliance rates (Tan, Mohd Salleh, & Md Kassim, 2017). In line with this study, voluntary tax compliance refers to the filing of tax declarations via an e-filing system by salaried taxpayers before the due date. Despite the core strategy of IRBM to maximise voluntary tax compliance (IRBM, 2018 pp. 39), Table 1.7 indicates that the number of Form BE filed before the due date has been below 47% since 2012. This condition demonstrated an unsatisfactory voluntary tax compliance rate among the salaried taxpayers although initiatives were made.

Despite IRBM initiatives towards achieving an increase in the voluntary tax compliance among taxpayers through tax education and information sharing (IRBM, 2017 pp. 39), the voluntary tax compliance rate of salaried taxpayers has not improved. Provided that salaried taxpayers do not engage tax agents, they rely on tax awareness and educational activities for tax knowledge. However, the ineffectiveness of these activities (Table 1.5) occurs due to the attendance either by school children, tax agents, or employers. Given the costly tax enforcement, individual taxpayers should be equipped with basic tax knowledge to gain compliance (Palil & Rusyidi, 2013). Following that, Mohd Tallaha, Abdul Shukor, and Abu Hassan (2014) suggested more direct questions regarding tax knowledge, while Chan, Moorthy, and Choo (2017) proposed that general tax return filing knowledge is provided to taxpayers. Bornman and Wessels (2017) proposed that tax knowledge is tested in different dimensions. Past studies performed testing on the technical aspect of tax knowledge, which was inadequately perceived as complex and demotivating (Bidin & Sinnasamy, 2018). Moreover, the general tax filing knowledge continues to be main concern of researchers in addressing individual taxpayers'

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behaviour (Kaur, 2016; Mat Udin, 2018; Oladipupo & Obazee, 2016). In this case, limited studies on general tax filing knowledge were suggested in this study.

Numerous information dissemination activities via mass media are presented in Table 1.6. However, no information was present regarding the effectiveness of mass media referents in creating norms among taxpayers. Furthermore, mass media referent was introduced in limited tax-related studies. Given Wang, Doong, and Lin's (2007) statement that mass media innovates communication among the taxpayers in a social system, continuous use of mass media increases the significance norm of acceptance among taxpayers (Keramati, Sharif, Azad, & Soofifard, 2012). The opinions of highly interactive friends and spokesperson in mass media are critical for subjective norm improvements (Bhattacherjee, 2000; Bhattacherjee & Sanford, 2006; Hung, Chang, & Kuo, 2013). On the other hand, Rosid, Evans, and Tran-Nam (2017) indicated the use of mass media as a primary wide-reaching source of information. Hence, mass media referent, which was rarely examined in terms of the subjective norm of voluntary tax compliance, could be contributed to this study.

The collection cost efficiency has been increasing from RM0.85 (2012) to RM1.75 (2017) to recover tax arrears that range from RM5.7b to RM7.4b annually (Table 1.7). The amount of tax arrears might indicate taxpayers financial ability. As a result of confidentiality, the total amount of outstanding tax by salaried taxpayers was not available. Based on the total amount of tax assessments raised on salaried taxpayers in 2016 (RM18.234b) (IRBM, 2017a), the control behaviour of the ability to pay tax dues including the imposed penalties (Table 1.3) was unknown. According to Torgler (2007), the financial condition of individuals may create a sense of distress upon the fulfilment

of tax payments. Following that, Seto (2009) stated that tax theories fail to consider the taxpayers' ability to pay, which led to serious constraints on the incoherent income tax mechanical structure system. Thus, Rosid et al. (2017) indicated the high importance of considering the financial status of salaried taxpayers as perceived behavioural control over compliance. Similarly, the deteriorating economic status (Bloomquist, 2003) and financial situation affect the compliance behaviour (Manfre' & Angelini, 2018). As a result of limited studies, the inclusion of the ability to pay as a dimension in terms of the perceived behaviour control was commendable in this study.

In this study, deterrence theories were not taken into account, provided that voluntary tax compliance is an act of free will without the need for deterrence. Furthermore, the current traditional economic tax compliance model through enforcement and deterrence is insufficient for explaining the current tax compliance level (Bobek, Roberts, & Sweeney, 2007; Brockmann, Genschel, & Seelkopf, 2016; Walsh, 2012), which involves the use of Theory of Panned Behaviour (TPB) to incorporate the unique tax compliance behaviour factors (Marandu, Mbekomize, & Ifezue, 2015). Meanwhile, the understanding of problematic human behaviour could only be achieved through the antecedents of behaviours (Hastuti, Suryaningrum, Susilowati, & Muchtolifah, 2014). Furthermore, unidimensional constructs may create resistance due to monolithic inflexible structure, which leads to operationalisation issues and inconsistencies among constructs in the majority of intention models. Thus, the Decomposed Theory of Planned Behaviour (DTPB) model, which offers flexibility with better managerial, predictive, and parsimonious explanatory power, was suggested for this study.

Previous tax-related DTPB model solely focused on the acceptance, adoption, or continuous online tax filing intention studies. However, the studies on voluntary tax compliance intention by salaried taxpayers were rare in recent years. Furthermore, the demographic, economic, and social contexts in Malaysia were found to be different from other countries. The current tax filing knowledge, the method use of norm referent, and financial ability are vital for determining Malaysian taxpayers' voluntary tax compliance behaviour, which was not tested in the previous tax-related DTPB model studies. Hence, the extended DTPB model with general tax filing knowledge, mass media referent, and ability to pay was believed to have a significant impact in this study.

1.3 Research Questions

Given this study focus on the voluntary tax compliance intention among individual taxpayers with employment income via e-filing system, it aims to answer the following research questions:

1. Do attitude, subjective norm, and perceived behavioural control significantly predict the voluntary tax compliance intention among individual taxpayers via the e-filing system?

2. Do the dimensions of perceived usefulness, perceived ease of use, and general tax filing knowledge significantly affect the individual taxpayer's attitude towards voluntary tax compliance intention via an e-filing system?

3. Do the dimensions of peer influence and mass media referents significantly affect the individual taxpayer's subjective norm towards voluntary tax compliance intention via an e-filing system?

4. Do the dimensions of self-efficacy, facilitating conditions, and ability to pay significantly determine the individual taxpayer's perceived behavioural control towards voluntary tax compliance intention via an e-filing system?

1.4 Research Objectives

This study mainly aims to assess the voluntary tax compliance intention via e-filing system among individual taxpayers with employment income towards the compliance with income tax filing requirements and several selected factors that contribute to tax compliance behaviour. This action was performed through the extension of the Decomposed Theory of Planned Behaviour (DTPB) by Taylor and Todd (1995c) with three factors, namely general tax filing knowledge, mass media referents, and ability to pay. Through the DTPB theory, this study aims to assess the antecedent factors of attitudes, subjective norms, and perceived behavioural control in motivating individual taxpayers with employment income towards voluntary tax filing compliance. Following are the study objectives:

1. To examine the relationships of attitude, subjective norm, and perceived behavioural control and individual taxpayer's voluntary tax compliance intention via e-filing system

2. To examine the relationship between the dimensions of general tax filing knowledge, perceived usefulness, perceived ease of use, and compatibility on individual taxpayer's attitude towards voluntary tax compliance intention via e-filing system

3. To examine the relationship between the dimensions of peer influence and mass media referent on subjective norm

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4.	To examine the relationship between the dimensions of self-efficacy, facilitating conditions, and ability to pay on perceived behavioural control

1.5 Scope of Study

The research was performed on individual taxpayers with employment income from Klang Valley within the vicinity of the Federal Territory of Kuala Lumpur and Selangor, which includes Cyberjaya and Putrajaya. To illustrate, 43.13% of total active individual taxpayers were residing in these areas. Essentially, the main IRBM branches in Kuala Lumpur and Selangor include the Duta Branch, Large Taxpayer Branch, Non-Residence Branch, KL Bandar Branch, Cheras Branch, Wangsa Maju Branch, Petaling Jaya Branch, Shah Alam Branch, and Klang Branch.

As the largest urban centre of the country, Klang Valley comprises 20% of the total Malaysian population, 30% of the total Gross National Income (Performance Management And Delivery Unit, 2012), and one-third of national employment that resides in Klang Valley (The World Bank, 2015). Hence, Klang Valley offers abundant employment opportunities and large enrolment in higher learning institutions, given that most of the higher learning institutions and the industrial, commercial, and administrative institutions of the country are located in the Klang Valley (Tey, 2012).

In this quantitative study, factors including attitude with dimensions of general tax filing knowledge, perceived usefulness, perceived ease of use and compatibility, the subjective norm with dimensions of peer influence and mass media referent, and perceived behavioural control with dimensions of self-efficacy, facilitating conditions,

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and ability to pay were tested to obtain the voluntary compliance via e-filing system among salaried taxpayers. In this study, voluntary compliance referred to the voluntary filing of income tax form in accordance with tax laws. The research questionnaires were distributed throughout Kuala Lumpur and Selangor. Essentially, the annual deadline for individuals under the category of employment income to submit their income tax return Form BE was 20 April. This deadline was subject to the approved extension of time by IRBM. However, for individual taxpayers who filed their income tax return forms through an electronic medium within 15 days after the due date, the forms would be deemed as received within the stipulated time frame (CTIM, 2015).

1.6 Significance of the Study

This study presented an added value to the body of knowledge, particularly in terms of theoretical contributions, including methodological and practical contributions. The significance of the study and practical contribution are discussed in the following sections.

1.6.1 Theoretical Significance

As previously elaborated, the discussion about the research problems and questions presents the importance of further research on individual taxpayers' behavioural intention to comply with tax filing requirements via an e-filing system, which expands the DTPB model. Furthermore, limited studies employed the DTPB theory, which focused on the study of voluntary tax compliance behaviour. The voluntary compliance issue is crucial in any discussions of reducing tax gap methods (Branham, 2009). Provided that the e-filing system is introduced as an alternative tool for the submission

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of income tax returns, numerous studies focused on e-filing system acceptance instead of the voluntary tax compliance behaviour via the e-filing system. Hence, the significance of the e-filing system as a compliance tool is unavoidable. In addition, the interaction between humans and information technology involves human behaviour, which could be problematic and understandable only through the antecedents of behaviours (Hastuti et al., 2014). Previous voluntary tax compliance behavioural studies on taxpayers focused mainly on economic and deterrence variables, such as tax rate, penalty rate, the role of tax agents, tax fairness, tax audit, and corruption.

Considering that individual taxpayers may not engage the representations of a tax agent, the dissemination of general tax filing knowledge may assist taxpayers to voluntarily comply with tax laws. According to Eriksen and Fallan (1996) and Palil (2010), tax knowledge results in a higher possibility of tax compliance and lowers the tendency of tax avoidance. Emphasising voluntary compliance role among individual taxpayers is vital due to the individuals who are not subject to third-party reporting, such as auditors and tax agents (Branham, 2009). Although the e-filing system for individual taxpayers has taken place since 2006, Mohd Tallaha et al. (2014) stated that individual taxpayers' tax knowledge remains unclear. To illustrate this point, several studies have demonstrated the differences in the outcomes from the tax knowledge questions, which are related to tax compliance. Prior studies presented a vague indicator of tax knowledge on the intention of electronic tax filing usage towards tax compliance increment (Mohd Tallaha et al., 2014), which indicates the importance of further research on tax knowledge effect, particularly in the digital era. The outcome from this study would provide insights into the impact of general tax filing knowledge on salaried taxpayer's attitudes, particularly their voluntary tax compliance intention.

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Various efforts to increase voluntary tax compliance through strategic and effective promotions including publicities are important to tax administrators, such as IRBM (IRBM, 2017b). Considering that individual taxpayers were exposed to technologies usage, limited studies were published on the influence of mass media referent as an informative communication within the taxpayers' societal circle. The usage of mass media to disseminate tax information among taxpayers was also suggested (Roberts, 1994; Tan & Chin-Fatt, 2000). Similarly, Venkatesh and Davis (2000) recommended the observation into the context of media choices towards the integration of normative and utilitarian factors. Furthermore, OECD (2010b) highlighted the use of mass media as a medium of communication with taxpayers to strengthen the tax administrator's effectiveness or strengthen the social norms with honest taxpayers. The influence of mass media as an informative reference has been studied in various contexts (Bhattacherjee, 2000; Md Husin et al., 2016; Sadaf & Gezer, 2020; Zolait & Sulaiman, 2009). However, limited studies were performed on mass media referent's influence on subjective norm from the tax perspective. Hence, the understanding of mass media referent may be useful to influence the society role and norm in the increase in voluntary tax compliance among individual taxpayers.

The factor of taxpayer's ability to pay should be considered. However, limited research works were present on the financial ability to pay taxes based on the taxes reported from individual taxpayers, especially after the implementation of the Goods and Services Tax (GST) in Malaysia between 2014 and 2018. Given that most taxpayers are unwilling to pay taxes, tax administrators are faced with difficulties in collecting and imposing taxes at any time and place (Alma, Martinez-Vazquez, & Schneiderb, 2005). Furthermore, past studies indicated that the sunk costs affected the willingness

of taxpayers to declare their income (Cullis, Jones, & Savoia, 2012; Kirchler, Muehlbacher, Hoelzl, & Webley, 2009). Accordingly, Seto (2009) highlighted that tax theories failed to present considerations on the taxpayers' ability to pay, which led to serious constraints on incoherent income tax mechanical structure system. The financial constraint may place taxpayers in a challenging scenario into complying with income tax laws through their income declaration instead of being concerned about the tax payment. Therefore, the significance of the ability to pay on perceived behavioural control offers additional knowledge contribution in this study.

Although past research works utilised the traditional deterrence model to focus on the punitive choices to increase tax collections, the models were proven to have poor performance (Saeed & Shah, 2011). Furthermore, Marandu, Mbekomize, and Ifezue (2015) argued that the Theory of Planned Behaviour (TPB) is insufficient to capture the unique factors of tax compliance behaviour. Therefore, further modifications or extensions were suggested to identify various factors specific to tax compliance behaviour. This study focused on improving voluntary compliance behaviour by utilising the Decomposed Theory of Planned Behaviour (DTPB), which highlighted the behavioural factors to submit income tax return form before the due date. The suggestion was made for the extension of DTPB with factors including general tax filing knowledge, mass media referents, and the ability to pay into the original framework in the context of voluntary tax compliance behaviour.

1.6.2 Practical Significance

It is hoped that the responses from the participants of the survey would offer invaluable insights for IRBM to assess the determinants of individual taxpayer's voluntary compliance behavioural intention in this technological era. Even though the electronic filing of income tax returns could particularly reduce the compliance costs, extremely high costs are involved in the implementation of the information system, which produces a relatively low rate of success (Legris, Ingham, & Collerette, 2003). The wireless technologies are faced with rapid changes due to the enhanced development of applications, which results in an increase in users' expectations (Khan & Ahmad, 2015). The understanding of taxpayers' expectations could offer better strategies to enhance the service delivery while maximising the voluntary compliance rate, given the annual increase in the number of individual taxpayers.

This study was in line with the speech by Malaysia's Minister of Finance during the National Tax Conference 2018, which urged taxpayers to voluntarily comply, pay tax dues, and conduct a professional discussion with IRBM for payment deferment if necessary (The Star, 2018). The outcome could offer the understanding of whether the taxpayers possess the financial ability to pay tax liabilities during the designated time. The tax authorities could utilise this study as a guide to present tax payment deferment schedule guidelines and reduce the financial burden of taxpayers.

According to Yilmaz and Coolidge (2013), electronic filing generally has the potential to reduce tax administration costs, given that computerised tax records may reduce errors and the effort of arranging and analysing tax files and administrating the systems. A cost-saving of RM6.88 per copy of income tax return (Abdul Aziz & Md Idris, 2009)

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form includes the costs of paper, printed materials, postage and manpower, contributing to IRBM saving of over RM210 million since its inception in 2005 (Nanyang Siang Pau, 2017). Rather than printing income tax return materials, the funds could be used for tax compliance campaigns and promotions. Moreover, the communication through mass media could provide the ground for tax administrators to encourage voluntary compliance among individual taxpayers while reducing administrative costs. However, limited studies were conducted regarding the use of mass media campaigns and programmes as tax referent within the circle of individual taxpayers, especially those with employment income. Notably, this study offers suggestions on the effectiveness of mass media as the main tool for compliance reference among groups of individual taxpayers with employment income, who may not be able to engage tax agents.

The research result was expected to provide the policy makers with appropriate designs and strategies to encourage the individual taxpayers to increase compliance rate and ensure the success of SAS function according to IRBM objective to provide effective and efficient tax services while maximising voluntary compliance (Loo, McKerchar, & Hansford, 2009). Due to the volatility of petroleum prices, the direct tax collection from individuals has been the main source of federal revenue after corporate taxes (IRBM, 2017b). In this case, the focus on individuals is vital in terms of voluntary tax compliance and collections. To illustrate, the important element of national total revenue is based on the taxpayers' high compliance rate (IRBM, 2017 p. 41). The decomposed TPB model would offer the most refined guidance for managers (Taylor & Todd, 1995b).

1.7 Organisation of the Thesis

This thesis consists of five main chapters covering the background of this study, literature review, methodology, and analysis, followed by findings, discussions, limitations, future recommendations, and conclusion. Chapter One presents the background of this study, including an overview of the issues raised that lead to the problem statement, research questions, objectives of this study, the study significance, definition of terms, and summary of thesis structure. In Chapter Two, the literature reviews on previous studies are discussed in terms of the technology usage behaviour. This is followed by Chapter Three and the research methodology that covers the conceptual framework, hypotheses development, variable measurement, research design, sample selection, and data collection process. The details of results recorded from data analysis are shown in Chapter Four. The final chapter summarises the study in terms of findings, discussions, limitations, recommendations for future research, and conclusion.
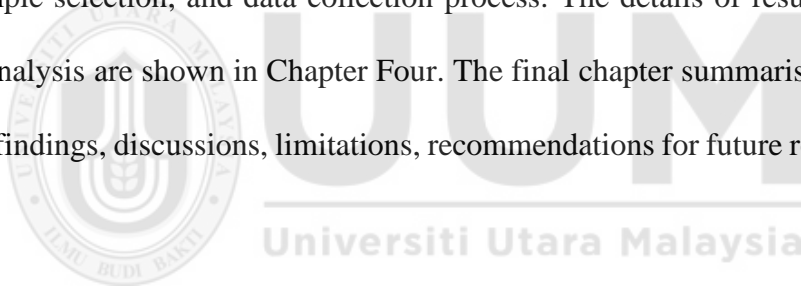
CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter discusses and reviews previous studies on tax compliance behavioural intention. The discussions on the tax system and voluntary tax compliance issues, overview of individual income tax filing system, and e-filing system as voluntary tax compliance tool are highlighted in this chapter. This is followed by a discussion on behavioural theories, such as Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Technology Acceptance Model (TAM), Unified Theory of Acceptance and Used of Technology (UTAUT), and Decomposed Theory of Planned Behaviour (DTPB). Further discussions on the DTPB model and its extensions are made for its justification as an underpinning theory in this study. The determinants of voluntary tax compliance intention were highlighted for discussions on the dependent variable, constructs, and dimensions for this study. This chapter is concluded with a chapter summary.

2.2 Tax System and Voluntary Tax Compliance

Malaysian taxes consist of direct taxes and indirect taxes. Specifically, direct taxes are administered by the Inland Revenue Board, which includes stamp duty, real property gains tax, and income taxes from companies, petroleum tax, and tax on individuals. Meanwhile, indirect taxes are administered by the Royal Customs and Excise

Department, which include goods and service taxes, import duties, and excise duties. The income tax in Malaysia is governed by the Income Tax Act 1967 and administered by the IRBM.

Different perceptions and definitions of tax compliance are present, which also refer to tax avoidance and tax evasion. According to Song and Yarbrough (1978), the US tax system is based on self-assessment including voluntary compliance. It was suggested by the authors that tax compliance is the ability and willingness of taxpayers to comply with tax laws, which are determined by ethics, legal environment, and other situational factors. Andreoni, Erard, and Feinstein (1998) stated that tax compliance could be defined as the willingness of taxpayers to obey tax laws to achieve economic equilibrium. Despite the differences in defining tax compliance, James and Alley (2002, p. 32) summarised the definition of tax compliance as the taxpayers' willingness to act according to tax laws and administration without any force being applied. Tax compliance is highly complex and comprises broad implications (James & Alley, 2004, p. 38) in the form of voluntary or enforced tax compliance (Mas'ud, Abd Manaf, & Saad, 2014). In Malaysia and many other countries, tax authorities define tax compliance as the taxpayer's ability and willingness to comply with tax laws while declaring the correct annual income and paying the correct amount of taxes on time (Palil, Hamid, & Hanafiah, 2013).

In determining the taxpayers' compliance decision, the behaviour, economy, demographics, and culture are the possible factors affecting compliance intention (Chan et al., 2000), which could also lead to either compliance or noncompliance. Having a presence worldwide (Kasipillai, Baldry, & Prasada Rao, 2000), tax noncompliance is a

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perennial universal problem (Kasipillai & Abdul-Jabbar, 2006). In this case, Kasipillai, Aripin, and Amran (2005, p. 135) highlighted that non-compliance, which could be either intentional evasion or unintentional noncompliance, may be caused by computation errors and inadequate understanding of tax laws. Abdul Jabbar and Pope (2008) and Tan et al. (2017) described noncompliance as the failure of meeting the requirements of tax reporting, which includes the failure of submitting an income tax return, income understatement, deductions overstatement, or failure of tax payment before the due date. Moreover, no specific definition is present for tax noncompliance (Mohd Yusof, Lai, & Yap, 2014). Therefore, worldwide tax administrators focus on determining the methods to reduce tax noncompliance while maximising voluntary compliance (Feldman & Slemrod, 2007; Kasipillai & Abdul-Jabbar, 2006; Loo et al., 2009; Pentland & Carlile, 1996; Umar, Derashid, & Ibrahim, 2016). In most cases, although tax complexity often has the tendency to decrease compliance, better tax administrative services assist the taxpayers in improvising tax compliance (Alm, 2019). Hence, complexity should be reduced to increase compliance.

In the era of self-assessment and the development of electronic commerce, tax compliance has become increasingly important for tax administrators. However, encouraging taxpayers to comply voluntarily with tax law requirements is a challenging process (James & Alley, 2004). The implementation of an e-filing system could minimise computational error. Furthermore, compliance with the tax laws is challenging for both tax administrators and taxpayers (Kasipillai et al., 2003). Hence, the importance in applying the correct balance between promoting voluntary compliance and deterring willful noncompliance, considering that the economic approach of harsh enforcement may prevent the willingness of responsible taxpayers to

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comply with a perceived unfair system (James & Alley, 2004). Essentially, tax administrators play an important role to ensure voluntary tax compliance among taxpayers.

Tax avoidance essentially refers to the ingenuity of taxpayers in managing their tax affairs to reduce the amount of taxes according to the tax laws (Kasipillai et al., 2003). Under Section 113(1) of ITA 1967, the penalty for not declaring the correct amount of income is equivalent to a fine ranging from RM1,000 to RM10,000, including a special penalty of twice the amount of tax undercharged. However, with no prosecution being instituted, a penalty rate, which is equivalent to the amount of tax that arises from any understatement of income may be imposed under Section 113(2) of ITA 1967.

Tax evasion refers to the act of deliberately not complying with the tax laws by evading the lawfully owed tax payment (Kasipillai et al., 2003). Given that any wilful evasion of tax is an offence under Section 114 of ITA 1967, any wilful intent to evade tax payment or assist any person to evade can be charged and is liable for a penalty between RM1,000 and RM20,000 or a term of not more than three years imprisonment or both. Additionally, a special penalty of three times the amount of tax undercharged could be imposed. The parties whose assistance or advice leads to the understatement of tax liability of another individual would be charged with a penalty between RM2,000 and RM20,000 or up to three years imprisonment or both if found guilty of the offence under Section 114(1A) of ITA 1967. This condition indicates the severity of the offence by the taxpayer and the person who provides the advice.

Similar to combatting noncompliance, promoting voluntary tax compliance is vital (Silvani & Baer, 1997). However, persuading taxpayers towards tax compliance is a highly challenging task for many tax administrators (Tan et al., 2017). The main objective of IRBM is to improve voluntary tax compliance voluntarily through its vigorous efforts in facilitating tax affairs while reducing taxpayers' compliance costs, especially for people who are ready to comply with tax obligations. Therefore, a well-balanced compliance programme with a risk-based focus, including transparency, compliance attitude of taxpayers, and voluntary tax compliance could be maximised (IRBM, 2017b).

As the core of modern tax administrations, with clear information, proper education and guidance, simplified procedures, and sufficient encouragement; voluntary tax compliance and SAS works together to enable taxpayers to assess and make tax payments (Silvani & Baer, 1997). Various definitions are present for voluntary tax compliance. Specifically, Manhire (2015) described voluntary tax compliance as the tax administrators' reliance on taxpayers' cooperation for proper filing and assessment on the correct amount of taxes and timely tax payment. It was also suggested that voluntary compliance should be replaced by cooperative compliance. However, most of the definitions commonly describe voluntary tax compliance as timely filing of tax declarations (Alabede, Zainol Ariffin, & Md Idris, 2011; Silvani & Baer, 1997), honestly (Kira, 2017), and timely payment of taxes without enforcement (Mas'ud et al., 2014; Silvani & Baer, 1997). In this study, voluntary tax compliance was described as the taxpayers' law-abiding behaviour in the submission of timely income tax returns before the stipulated due date without enforcement.

2.3 Overview of Individual Income Tax Filing System in Malaysia

Individual taxpayers are required to fill and submit income tax return forms to IRB offices with all the relevant documentation for the assessments under the Official Assessment System (OAS). Following that, the official notice of assessment will be issued to tax payers for the payment of tax liabilities (Palil, 2010). However, the burden of tax assessment has shifted from the IRBM to the individual taxpayers under the Self-Assessment System (SAS) since 2004.

2.3.1 Self-Assessment System (SAS)

Before the year of assessment 2001 under the OAS, Malaysian taxpayers were required to fill and submit their income tax return form with the relevant documentation to IRBM for verifications (Palil, 2010). An official notice of assessment with the stated amount of tax payable was issued by IRBM to the taxpayers for the payment of tax liabilities (Loo & Ho, 2005; Palil, 2010). From the year assessment 2001 onwards, the OAS was substituted with SAS starting from the stage of tax returns by companies before it was introduced to individual taxpayers in the year of assessment 2004. Following the introduction of SAS for salaried individuals and individuals with business-sourced (sole proprietorship or partnership) income since year of assessment 2004, individuals are required to file the completed income tax return forms to IRBM and pay the number of tax dues on time (Choong & Wong, 2011). Although the forwarding of supporting documents to IRBM under the SAS era is not required, the documents should be kept by the taxpayers and presented if required for audit or investigation purposes. Thus, encouraging voluntary tax compliance towards achieving a higher compliance rate is

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the main objective of tax audits and tax investigations under the SAS era, as stipulated in its frameworks (IRBM, 2013b, 2015b).

According to Marshall, Smith, and Armstrong (1997, p. 9), SAS could be defined as a voluntary self-declared tax liability by taxpayers. The IRBM adopts the SAS with the main purpose to encourage voluntary tax compliance, while the burden of tax assessment is shifted to the taxpayers (Choong & Wong, 2012; Lai & Choong, 2009). To comply voluntarily under the SAS, the taxpayers should possess good tax knowledge (Lai & Choong, 2009) with the basic knowledge of computing taxable income, expenses deductibility, reliefs, rebates, exemptions, and entitlements for the case of individual taxpayers (Choong & Wong, 2011). Based on the SAS, the taxpayers are required to fill the income tax form, and either calculate and pay the tax liability or wait for a refund, if any (Kasipillai, 2009; Shaharuddin, Palil, Ramli, & Maelah, 2012). The burden to compute tax liability is imposed on the taxpayer, where the notice of assessment would be deemed based on the computation of tax liability based on the income tax return form, which is manually or electronically submitted to IRBM (Choong & Wong, 2012) through e-filing system (Hazianti, Ahmad, Katmun, & Jaafar, 2015).

2.3.2 Filing of Income Tax Returns

According to Section 77 of ITA 1967, it is mandatory for all individual taxpayers to submit their income tax return forms to IRBM annually. Based on Section 77(1) of ITA 1967, any perse individuals with chargeable income or no chargeable income, that has furnished or has been required to furnish a return under ITA 1967, are required to

furnish to DGIR using the prescribed form before the due date. Essentially, the dateline for income tax filings is 30th April for salaried taxpayers and on 30th June for taxpayers with business-sourced income (Choong & Wong, 2011).

As an encouragement to file an income tax return electronically, an extension of time is also provided to taxpayers who use e-filing to submit their income tax return forms. Accordingly, the Section 152A(6) of the ITA 1967 states that any individuals who furnish any prescribed form through electronic medium or electronic transmission are deemed to have furnished to the DGIR on the date where the acknowledgement of receipt of the prescribed form is electronically transmitted by the DGIR to that person.

2.3.2.1 Amendment of Income Tax Returns

As gazetted under Section 77B in the ITA 1967, with effective year of assessment 2009, self-amendment for additional assessment is allowed once a year for taxpayers in terms of the errors that result in additional assessments. The respective taxpayer who makes self-amendments should submit the specified forms within six months from the dateline of the income tax form submission date. Furthermore, although no penalty would be imposed on the under declaration of remuneration or excessive deduction claims, a late payment penalty will be imposed for any defaults in tax payments by the taxpayer. However, no amendment would be allowed when a return is furnished under Section 77(1) of the ITA 1967, while an assessment is made under Section 91 of the ITA 1967.

2.3.2.2 Prescribed Form

In complying with any provisions of the ITA 1967, it is a requirement for an individual to use a prescribed form under Section 152 of the ITA 1967. This form may be deemed as appropriate according to the operation of the ITA 1967 by the DGIR. An individual would be perceived as not complying with the provisions of the ITA 1967 unless if a reasonable printed copy of the prescribed form or any authorised substituted printed copy of the form is used.

In facilitating the taxpayers to file income tax return forms electronically, Section 152A of the ITA 1967 offers the avenue for any individuals to file any prescribed form under the ITA 1967 to use the electronic medium or electronic transmission. Any individuals may also furnish any prescribed form through a tax agent, as outlined in Section 153 of the ITA 1967, with a written authorisation that the prescribed form would be deemed furnished based on the relevant party's authorisation.

2.3.2.3 M-Filing

In line with the advancement of the current technologies, IRBM introduced the m-filing system in the year of assessment 2011 to enhance the e-filing system. This system allows individual taxpayers to file income tax returns using mobile devices with the recommended supporting operating systems (BDO Malaysia, 2011). According to IRBM (2013), m-filing involves the reporting and submission of income tax return forms through mobile devices. It was previously stated by IRBM (2012) that m-filing refers to the submission of individual income tax return forms through mobile devices

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by resident individuals who do not conduct business. Therefore, m-filing in Malaysia could only be performed by individual taxpayers with employment income.

2.3.2.4 Prefill of Information

With the effect of the year of assessment 2012, information including total income, Monthly Tax Deduction (MTD), Employees Provident Fund (EPF) contributions, insurance, and zakat submitted by the employers of salaried taxpayers are prefilled for salaried taxpayers who use e-filing system.

2.3.2.5 Monthly Tax Deduction (MTD) and MTD as Final Tax

Salaried taxpayers are also subjected to Monthly Tax Deductions (MTD). Effective from 1st January 1995, it was gazetted in the Income Tax (Deduction form Remuneration) Rules 1994 that salaried taxpayers are subject to Scheduler Tax Deduction (STD) which are currently known as Monthly Tax Deduction (MTD). Based on the MTD scheme, a portion of salaried taxpayers' salary would be deducted, withheld by the employers, and remitted to the IRBM. However, based on Section 77C of ITA 1967, the MTD deductions are not the final tax. Therefore, individual taxpayers are required to file in the income tax return forms before the year of assessment 2014.

Changes were made to allow individual taxpayers with employment income to opt out of filing income tax return forms, which was effective from the year of assessment 2014. The amount of tax deduction would be deemed as the final tax under Section 77C of the ITA 1967. However, the following requirements should be fulfilled by the

individual salaried income taxpayers before opting to not file the income tax return form.

i.   Employment remuneration, as stated in Section 13(1)(a), (d), and (e) of the ITA 1967;

ii.   Based on Income Tax (Deduction from Remuneration) Rules 1994 and Section 107(2) ITA 1967, MTD's are taken into account;

iii.   Serving for a period of 12 months with the same employer for the specific year of assessment;

iv.   Employers do not pay for employees MTDs for that year of assessment; and

v.   Do not elect for joint assessment under Section 45 ITA 1967.

When all the requirements above are fulfilled, the total amount of MTD deduction would be deemed as the final tax payable.

Effective from the year of assessment 2015, an individual taxpayer who receives employment remuneration (as stated under Section 13(1)(b) and (c) ITA 1967) and serves under the same employer in that particular year of assessment may opt out of filing the income tax return form. If the same individual taxpayer fulfils the above criteria while not filing the income tax return form for that particular year of assessment, that individual salaried taxpayer will be deemed as not filing the income tax return form. In this case, given that the amount of MTD deductions is deemed as final payable for this assessment year, no assessment will be issued to the salaried taxpayer in this assessment year. However, the DGIR still possesses the power to deem and raise an assessment or additional assessment. In this respect, the total amount of MTD deductions, which is deemed earlier as final tax payable, shall be disregarded for this assessment year.

2.3.3 Offences for Failure to Furnish Income Tax Returns

Any failure to submit a tax return is an offence under Section 112(1) of ITA 1967 and is liable to fines ranging from RM200 to RM2,000 or imprisonment of not more than six months or both (Choong & Wong, 2011). The minimum amount of penalty for the non-submission of income tax return forms has increased to RM2,000 for individuals and RM20,000 for companies since 31 December 2014. However, if no prosecution is taken upon the taxpayers who do not submit their income tax forms on time, a penalty of up to 300% of the amount of tax and/or additional tax liability shall be imposed by the IRBM under Section 112(3) of ITA 1967.

2.3.4 Payment of Tax and Compensation for Overpayment of Tax

According to Section 103(1) of ITA 1967, any tax payable is due and payable on the due date even if appeals against the assessment have been submitted. For any amount of unpaid tax due and payable, a penalty of 10% would be imposed on the expiration of the due date according to Section 103(3) of ITA 1967. Following that, another 5% penalty will be imposed on the remaining unpaid amount of tax due and payable within 60 days from the due date under Section 103(4) of ITA 1967.

Based on Section 111D of the ITA 1967, as a commitment by IRBM to increase its efficiency, a compensation of 2% per annum or late tax refund will be issued to taxpayers who file the income tax returns before the dateline. The compensation will be calculated daily for tax refunds after 90 days from the dateline for e-filing taxpayers or after 120 days from the dateline for manual filing taxpayers. Following this, an effect

will be imposed from the year of assessment 2013 as stated under Section 111D (1) of ITA 1967.

2.4 E-Filing System as a Voluntary Compliance Tool

Governments that are under pressure to provide cost-effective public services have resorted to the use of e-government solutions (Ojha, Sahu, & Gupta, 2009). Historically, the Inland Revenue Authority of Singapore (IRAS) introduced telephone filing for individual taxpayers in 1995, which falls under the term of e-filing. In this case, computer use was included in the tax law to represent an accurate original paper document, although the lack of visual confirmation characteristics of the system leads to uneasiness among some taxpayers. Moreover, IRAS presented e-filing via the internet in 1998 to individual taxpayers, which contributed to a simple and attractive process (Teo & Wong, 2005). To ensure that tax returns are filed without errors, IRBM has been actively promoting the e-filing system to enable taxpayers to file income tax returns electronically (IRBM, 2006).

In the initial stage of SAS, e-filling was introduced to reduce errors in tax assessments with auto-compute and auto-correction functions, which highlight the errors or unfilled fields. In this case, taxpayers are required to download the form from IRBM official website, fill in details, print the income tax return form, and manually submit the completed income tax return form to the IRBM (IRBM, 2005). This action allows taxpayers to reduce computation error and uncertainties. However, the drawback is that taxpayers are still required to print their income tax forms according to IRBM printing requirements and submit their forms manually. Hence, an e-filing system is used in the

strategies to facilitate voluntary tax compliance towards and achieve efficiency in tax administration and compliance rate (Lai & Choong, 2008a). The investment towards strong technology infrastructure transforms IRBM into an efficient and swift government entity, which caters for taxpayers of different backgrounds (Rosdi, Chew, Samsudin, & Hassan, 2016).

IRBM implemented the e-filing for corporate taxpayers in 2004 (IRBM, 2006), while the e-filing for individual taxpayers was officially launched on 10 February 2006 (IRBM, 2007). As an improvement, the tax e-filing was then made available for taxpayers to file electronically. The e-filing is the extension of e-filling, where the income tax return form could be submitted electronically (IRBM, 2007). Notably, tax e-filing is the more popular choice for individuals to submit their income tax return forms (IRBM, 2008), given that e-filing eliminates errors and offers simplicity, accuracy, and security at the convenience of taxpayers to file income tax return forms electronically (IRBM, 2007). This innovative system has earned IRBM the Prime Minister's Innovation Award (AIPM) 2009 in 2010 (IRBM, 2011). Although it is not a mandatory requirement in Malaysia for individual taxpayers to perform e-filing (Ibrahim, 2013), it is mandatory for individual taxpayers to comply with tax law by filing income tax returns.

Generally, tax e-filing refers to the electronic filing of income tax return forms. Edwards-Dowe (2008) defined e-filing as the distribution of tax information through the use of the internet directly to the tax administration, self-prepared return or submission through tax professionals, and the use of the personal computer with tax preparation software in places including taxpayers' home, library, workplace, malls and

stores, volunteer site, financial institution, or tax professional's office. Lymer, Hansford, and Pilkington (2012) identified e-filing as the internet-based individual self-assessment returns online facility. Apart from the companies in Malaysia, tax reporting through the e-filing system could be performed by individual taxpayers with employment income and those with business-sourced income. However, in contrast to the corporate income tax filing requirement, the income tax form submission through e-filing system has not been made compulsory for individuals.

Constant upgrades may provide an efficient, effective, safe, and convenient environment for taxpayers to comply with the e-filing system. Chu and Wu (2005) highlighted the importance of clarity and flexibility in e-filing instead of efficiency and effectiveness-oriented tasks. The positive perception of an individual on the ease of use develops and strengthens a positive attitude towards the technology usage, contributing towards the strengthened technology acceptance intention where the use of technology and instruments should not be complex (Mahbob, Wan Sulaiman, Wan Mahmud, Mustaffa, & Abdullah, 2012).

In terms of security, the e-filing application among individual taxpayers was administered in 2006 based on a secured Public Key Infrastructure (PKI) feature (IRBM, 2007). Furthermore, the e-filing application is updated and upgraded regularly to ensure the security and timeliness of the tax return (IRBM, 2012a). As a recognition, IRBM received the "*Information Security Management System For Operation Of e-Filing System scope at the Data Centre IRBM*" with ISO/IEC 27001:2005 and MS ISO/IEC 27001:2007 certification by SIRIM QAS International Sdn. Bhd. on 10 January 2014

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(IRBM, 2015a). The recognition may increase the confidence level among taxpayers to comply voluntarily by filing through the e-filing system.

In encouraging individual taxpayers to voluntarily comply with tax law by submitting their income tax form through the e-filing system, the determinants of individual taxpayer's behaviour improve the understanding of their compliance behaviour in the digital era. Chau and Hu (2002) and Hu et al. (1999) classified the behavioural intention determinants into three contexts, namely individual, technological, and implementation contexts. However, Mahbob et al. (2012) further classified the individual context such as variables of attitudes, intrinsic motivation, self-efficacy, anxiety, playfulness, trustworthiness, risk, the perception of cost, habit and affective, technology context with variables including perceived usefulness/performance expectation/benefits relative, perceived ease of use/complexity, impact perception, quality of output, long-term effect, expected results, consequences perceptions and extrinsic motivation, and environmental context variables including social influences/social norms/subjective norm, facilitating condition, perceived behavioural control, visibility, images, compatibility, and credibility of information that refers to the specific targeted technology setting, which is to be implemented .

The fundamental factor in wireless network devices and services is mobility (Huang, Lin, & Chuang, 2007; Park, Baek, Ohm, & Chang, 2014; Siau & Shen, 2003). With the changing lifestyle of taxpayers, the mobility of facilities creates an advantage for governmental agencies and tax administrators. Kushchu and Kuscu (2004) stated that m-government complements e-government efforts and cannot be a replacement. In this case, the value of m-government refers to the application capabilities to support citizens,

businesses, and governmental internal operations in terms of mobility. Lee, Tan, and Trimi (2006) illustrated that m-government is a subset that supplements broader e-government, which is implemented by the government to provide information, service deliveries, citizen engagement, and efficiency improvement through mobile devices, such as mobile phones, PDA, and laptops connected to the wireless networks. According to OECD (2011), m-government provides powerful transformational capacity to extend beyond the existing services of e-taxation and e-government on commerce and expand new services delivery while increasing active participation by citizens in government operations. In line with the technology-oriented customers' lifestyle trend, IRBM introduced m-filing in 2012 for taxpayers to file income tax return forms through mobile devices (Rosdi et al., 2016). However, it can be argued that m-government would be more suitable for governmental mobile interactions instead of the mandatory form submissions, particularly income tax form submissions. Nevertheless, the interactions and decision-making engagement with citizens using mobile channels lead to a positive impact on public perceptions of government responsiveness. This condition leads to the increased participation by citizens in offering a more convenient platform to design and implement policies (OECD, 2011b).

Although the individuals may possess the same technological resources, they display different towards public services compared to the private sectors. Connolly, Bannister, and Kearney (2010) highlighted that the e-service providers under the public sectors should also focus on communicating their e-services functionality to reduce the public concern about the mismanagement or misuse of personal data. The study of the public sector, which differed from the commercial sectors and perceived values of commercial sectors, involved price, the timing of delivery, and guarantees. This condition was in

contrast to the public sector perceived value in terms of government and personal efficiency, including transaction complexity and consequences of error risks in the use of the website by the citizen.

IRBM uses an e-filing system as a strategy to facilitate tax compliance and achieve efficiency in tax administration and compliance rate (Lai & Choong, 2008a). Online taxation offers numerous benefits, such as cost and manpower savings, reductions in error rates, increased compliance, and use of resources in solving complex tax cases and serious frauds (Connolly, Bannister & Kearney, 2010; Teo & Wong, 2005). However, Hussein et al. (2011) argued that online services are different from conventional methods. In this case, server downtime, security, and privacy are the main concerns among citizens in the use of e-filing and government. Therefore, the focus is placed on the provision of convenience in the transaction of online tax without compromising service quality. Given that e-filing requires the functional mobile devices to submit tax returns, the understanding of the perceived value among the users is important, particularly in the context of individual taxpayers where the features limitations are present through the size, processing power, display window, and bandwidth of the mobile devices (Lee & Benbasat, 2003; Tarasewich, 2003; Wei & Ozok, 2005). These limitations could influence the individual taxpayers' intention for using e-filing. Nevertheless, IRBM has gained recognitions for its e-filing system in terms of security and quality.

Studies have demonstrated that demographic factors are among the determinants that influenced e-government usage intention behaviour. Viswanath Venkatesh et al. (2003) found that youngsters most likely used IT systems upon the belief that IT systems would

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assist them toward increased performance. Apart from perceived ease of use, Sipior et al. (2011) stated that education level, income level, and employment status were the significant factors in e-government services usage. Santhanamery and Ramayah (2015) further examined the factors that influenced e-filing continuance usage intention by considering other demographic factors besides age, education, income, gender, and ethnicity, namely neuroticism, conscientiousness, extraversion, agreeableness, and openness to experience. It was found that most of the demographic factors are significant towards the intention of continuous e-filing usage.

In the aspect of technology adoption preferences across genders, past studies indicated mixed results in the technology usage behaviour of both males and females. Ambali (2009) found that gender played a vital role in users' intention to use e-filing, where females posed a higher level of perceived usefulness and perceived ease of use compared to the males, except for the factor of facilitating conditions. This finding was in line with previous studies, where females were found to be more compliant compared to their male counterparts (Kasipillai & Abdul-Jabbar, 2006). However, Ilias, Abd Razak, and Yasoa (2009) recorded no difference in the taxpayers' attitudes towards e-filing usage based on their genders. Meanwhile, Zhang et al. (2014) recorded that males possessed higher m-health intention compared to females, in which the modified TRA model predicted that the behaviour intention among males was better than females. Following that, Zhang et al. (2014) and Pippin and Tosun (2014) found that non-white, poor, and female individuals had a higher possibility to file tax returns electronically. Rodrigues et al. (2016) revealed a significant difference in gender e-government adoption, where a higher resistance was present in adopting e-government services by

females compared to males. The contradicting results proved the need to further examine the behaviour of individuals.

Culture has its impact. In the comparison between the US and Hong Kong, Chan et al. (2000) found that due to less tax education and lower moral development, Hong Kong taxpayers did not possess a positive attitude on the tax system with a less favourable moral development level. As a result, lower tax compliance level took place, where the decision to comply was based on the societal expectation that normally occurred in a collectivist culture. Viswanath Venkatesh and Zhang (2010) suggested that cultural elements should be incorporated as a part of technology adoption from the scientific and practical perspectives. However, the culture factor plays an important role in influencing the technology adoption intention even in the comparisons among developed countries (Carter & Weerakkody, 2008; Hofstede, 2003; Venkatesh & Zhang, 2010). The differences in culture, particularly the factors of social influence in various countries, also play a vital role in technology adoption (Venkatesh & Zhang, 2010). This aspect provides a ground for further understanding of Malaysian taxpayers' culture towards voluntary tax compliance in this digital era.

Most of the online electronic tax filings studies involved taxpayers as respondents (Bojuwon & Siti Normala, 2014; Gupta, Zaidi, Udo, & Bagchi, 2015; Santhanamery & Ramayah, 2013; Tan & Foo, 2012a). However, a wide range of other respondents was also involved, such as university academic and administrative staff (Azleen, Norazah, Rushdan, & Rahida, 2008; Hussein et al., 2011), certified accountants (Carlos Pinho, De Lurdes Martins, & Macedo, 2011; Lai & Choong, 2010), citizens (Bhuasiri et al., 2016; Connolly, Bannister & Kearney, 2010), e-filing users (Goh et al., 2012),

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professionals (Chen, Jubilado, Capistrano, & Yen, 2015), and tax practitioners (Abdul Aziz & Md Idris, 2009, 2012; Che Azmi & Aziz, 2015; Lai, Sheikh Obid, & Meera, 2005; Robbins, Mulligan, & Keenan, 2015). These parties mainly focused on e-filing acceptance rather than compliance behavioural.

Given the tendency of the culture of taxpayers to file income tax return forms when the tax filing deadline is near, it is important for tax administrators to encourage taxpayers to use e-filing system through the accommodation and facilitation for users' needs and requirements (Goswami, 2014). It was further recommended by Goswami (2014) that tax administrators offer video or web-based tutorials to provide guidance to taxpayers throughout the online tax filing processes. Therefore, it would be equally important for tax administrators to understand the taxpayer's information referencing culture and norms. Whether the taxpayers still refer to television, radio, or tax compliance campaigns or vice versa, tax information or the preference of online commentaries and discussions that are posted on websites or social media may be the new information gathering that could influence voluntary tax compliance intention through the e-filing system. Given the significance of income tax form submission through e-filing system as the preferred tax filing mode in Malaysia (Table 1.1), it is vital to provide the facilitation of efficient and effective reliable tax information referencing to encourage voluntary tax compliance behaviour.

2.5 Behavioural Theories

Past research works proposed several behavioural or technology adoption models to examine the individual behaviour intentions, such as Innovation Diffusion Theory,

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Social Cognitive Theory, Theory of Reasoned Action (Fishbein & Ajzen, 1975), Technology Acceptance Model (Davis, 1989), Theory of Planned Behaviour (Ajzen, 1991), Perceived Characteristics of Innovation (Moore & Benbasat, 1991), Combined Technology Acceptance Model and Theory of Planned Behaviour (Taylor & Todd, 1995a), Technology Acceptance Model 2 (Venkatesh & Davis, 2000), Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003), Technology Acceptance Model 3 (Venkatesh & Bala, 2008), and Unified Theory of Acceptance and Use of Technology 2 (Venkatesh, Thong, & Xin, 2012).

2.5.1 Theory of Reasoned Action

Theory of Reasoned Action (TRA) is the improvement in the Expectancy Value Theory (EVT) in the field of psychology developed by Ajzen and Fishbein (1980) to predict human behavioural intention, which covers the predictions of attitudes and behaviour. Furthermore, TRA suggests that an individual's behaviour is motivated by the intentions based on the individual's attitude about the behaviour and subjective norms surrounding the behaviour performance (Ajzen & Fishbein, 1980). Behaviour intention is defined by Fishbein and Ajzen (1975, p. 201) as "*an individual's subjective probability that he or she will perform a specified behaviour*". According to Fishbein and Ajzen (1975), the inclusion of intention offers the best prediction of behaviour with the assumption that rational decisions are made by the individuals.

According to Fishbein and Ajzen (1975, p. 216), attitude is defined as "*an individual's positive or negative feelings (evaluative affect) about performing the target behaviour*". Attitudes could be expressed as individuals' salient belief about the outcome of their

actions, in which the belief is defined as the immediate outcome, which determines an individual's attitude (Ajzen & Fishbein, 1980). The experiences that accumulate over time forms the beliefs of an individual, which determine his or her attitudes. However, only a few of these beliefs have an influence on attitude.

Subjective norm is defined by Fishbein and Ajzen (1975, p. 302) as "*the person's perception that most people who are important to him think he should or should not perform the behaviour in question*". Subjective norms could be expressed as the combination of the individuals' perception, which is influenced by individuals or groups referred to fulfil the perceived expectations (Fishbein & Ajzen, 1975). The influence of the important parties to the individual who may approve or disapprove of the behavioural performance (normative beliefs) is measured by the motivation to comply with the referents (Ajzen & Fishbein, 1980). However, Fishbein and Ajzen stated that attitudes and subjective norms have different impacts on behavioural intention. Therefore, both components carry different weight in predicting behaviour although it is not equally weighted.

Based on the following diagram (Figure 2-1), the attitude towards a behaviour is a unidimensional measurement of beliefs about behaviour and evaluation of it. Similarly, the subjective norm is a unidimensional measurement that combines the opinion of referents and motivation to comply. Numerous studies were performed using TRA, such as the studies on coupon usage (Shimp & Kavas, 1984), recycling behaviour prediction (Goldenhar & Connell, 1992), condom usage (Kashima, Gallois, & McCamish, 1993), AIDS-preventive behaviour (Fisher, Fisher, & Rye, 1995), user acceptance of system usage (Liker & Sindi, 1997), brand loyalty (Choong, 1998), fast

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food restaurant patronage decisions (Bagozzi, Wong, Abe, & Bergami, 2000), teen sexual behaviour (Gillmore et al., 2002), and consumers motivation (Fitzmaurice, 2005). In recent years, TRA was applied in the study of Goods and Services Tax (GST) compliance (Bidin & Mohd Shamsudin, 2013), green information technology (Mishra, Akman, & Mishra, 2014), digital piracy (Woolley, 2015), and cyberbullying (Doane, Kelley, & Pearson, 2016; Doane, Pearson, & Kelley, 2014).
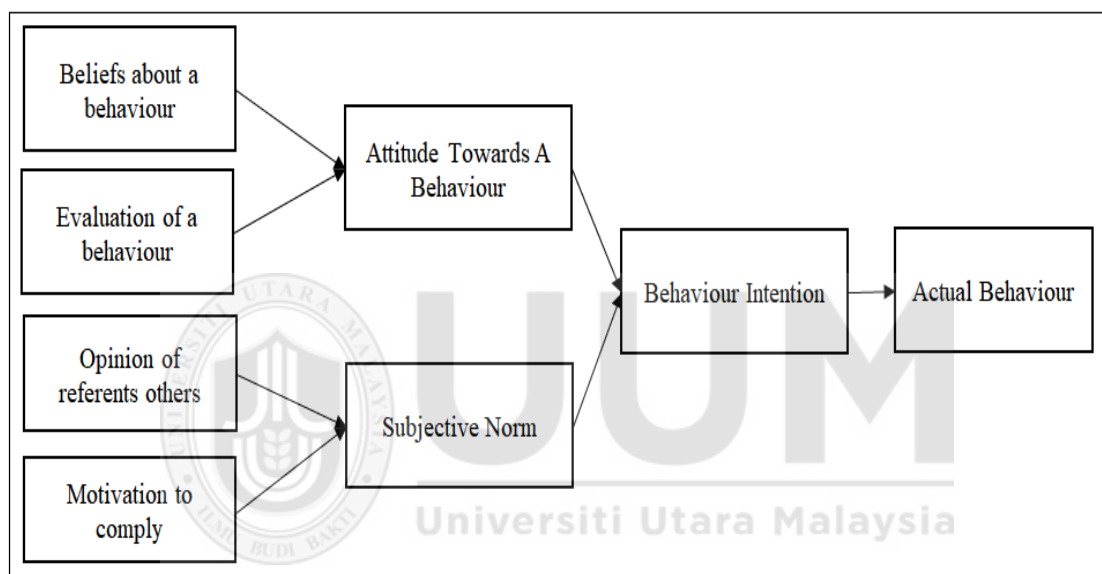
Figure 2.1:
Theory of Reasoned Action (TRA)
Source: Fishbein & Ajzen (1975)

Past studies demonstrated that TRA showed the highest effectiveness in certain conditions, although the specific reasons for the changes in behaviour were not highlighted. The TRA model does not consider the internal and external controlled factors, such as facilitating conditions and resource constraints. Meta-analysis study showed that TRA had strong predictive utility and positive performance in the prediction of goals and activities of a clear choice among the alternatives, although the initial TRA model was developed to examine the intention of performing a single

behaviour without any elements of choice (Sheppard, Hartwick, & Warshaw, 1988). However, the authors stated that TRA would not show positive performance in the study of goal situations compared to the study of behaviours. TRA model may only work under systematic, rational, and thoughtful behaviour. In this case, Kang, Hahn, Fortin, Hyun, and Eom (2006) established that TRA was not influential when the volitional control was incomplete. Nevertheless, the meta-analyses result indicated that the TRA model appeared with the highest performance upon the attempt to model the individuals' intentions determinants and impacts (Sheppard et al., 1988). However, the Theory of Planned Behaviour (TPB) model by Ajzen (1991) would be a more precise behavioural explanation, with its perceived behavioural control construct included in its model. Similarly, Madden, Ellen and Ajzen (1992) mentioned that TRA is applicable when the behaviour is under volition control, while TPB would be advantageous when behaviour violated volition control. The TPB model is explained further in the subsequent section.
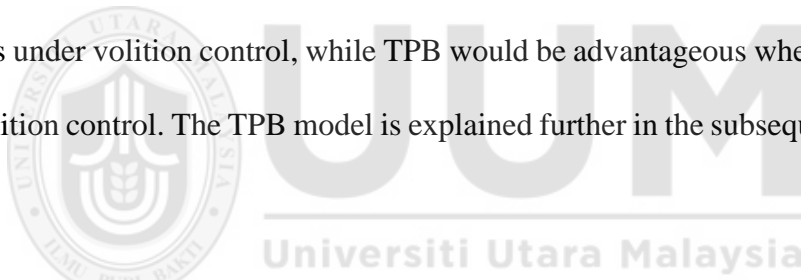
2.5.2 Theory of Planned Behaviour

Given several restrictions on the TRA application due to the weaknesses in attitudes and performances of decision behaviours, the Theory of Planned Behaviour (TPB) showed improvement by extending the TRA with the inclusion of perceived behavioural control (Ajzen, 1991). The TPB model by Ajzen (1985, 1987, 1991) comprises an additional paradigm of perceived behavioural control, which deduces an individual's behaviour. Behavioural intentions are influenced by their attitudes towards behaviour, subjective norms, and perceived behavioural control. Furthermore, Ajzen (2002) stated that the construct of perceived behavioural control was added to manage situations where individuals may lack complete control over the behaviour of interest.

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High level of perceived behavioural control may strengthen an individual's intention to show behaviour and increase effort and perseverance. Perceived behavioural control may have an indirect impact on intention when it is in line with the information presented about the actual control for a given situation, which is performed by an individual and may be used as an additional direct predictor of behaviour. Hence, Kang et al. (2006) highlighted the importance of perceived behavioural control as an extension to the limitation of the TRA model.

Ajzen and Madden (1986, p. 457) defined perceived behavioural control as "*the individual's belief as to how easy or difficult performance of the behaviour is likely to be*". Perceived behavioural control is *a "function of control beliefs multiplied by the power of control factors to impede or facilitate performance of the behaviour"* (Ajzen & Fishbein, 2008), which is on the contrary to the attitude and subjective norms that could influence behaviour and behavioural intention (Madden et al., 1992). However, Conner and Armitage (1998) classified control beliefs into two elements of perception factors that are likely to inhibit or facilitate behaviour performance, such as information, personal deficiencies, skills, and abilities that are similar to self-efficacy highlighted by Bandura (1982) at the individual level. To be specific, the first element is perception factor, while the second element is emotion. While emotions are termed as internal control factors, external control factors including opportunities, dependence on others, and barriers are similar to the term presented by Taylor and Todd (1995b), which is facilitating condition.
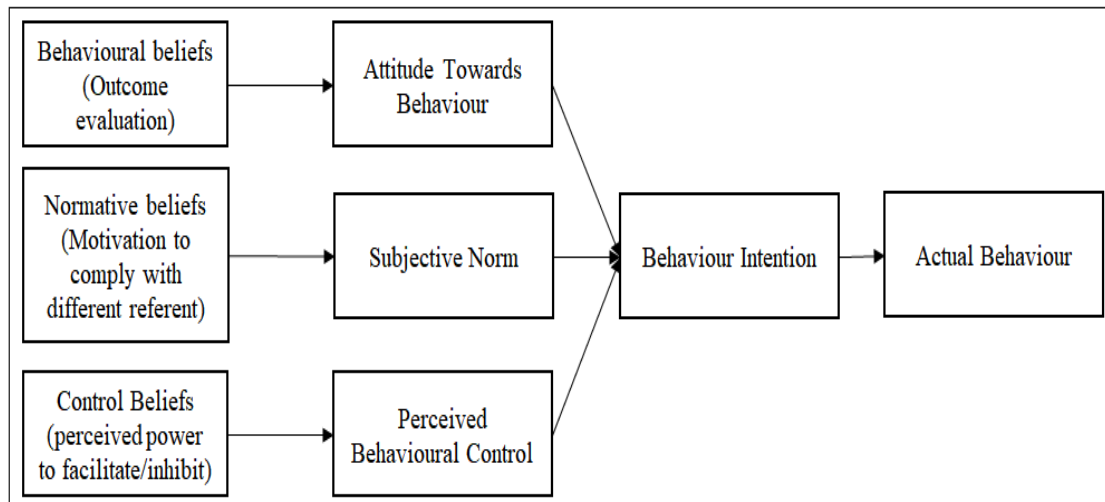
Figure 2.2:
Graphical representations of Theory of Planned Behaviour (TPB)
Source: Ajzen (1991)

The effort of tax authorities to decrease tax avoidance and tax evasion indicates a move

from economic crime theory to a psychology approach. Developed by Ajzen (1991),

the Theory of Planned Behaviour is believed to be one of the theories that successfully

explains the involvement of taxpayers in tax evasion. Thus, the psychological approach

is necessary to increase voluntary tax compliance (Kirchler, Hoelzl, & Wahl, 2008; Van

Dijke & Verboon, 2010; Wenzel, 2005). With the shift of tax administrators from the

theory of economic crime towards a psychological approach, TPB is believed to be

effective in explaining the reasons behind the taxpayers' tax evasion engagement

(Sudarma & Darmayasa, 2017).

In the comparison between TRA and TPB model, Madden et al. (1992) and Ajzen and

Madden (1986) demonstrated that TPB has higher precision in the behavioural intention

predictions. In this case, perceived behavioural control on the targeted behaviour is the

most significant factor when issues related to control are present. However, the past

study by Ajzen and Madden (1986) found that perceived behaviour control involved

little interactions with other independent variables of the TPB theory. Therefore, Blue (1995) found in the critical literature review that TPB offers a more promising framework compared to the TRA model due to the inclusion of beliefs about the control of factors, which may facilitate or inhibit a behaviour. Kang et al.'s (2006) study on consumer's usage of e-coupons recorded that TPB showed better explanatory results compared to TRA. However, traditional coupon users would gain lower usage intention as they may gain little access to the e-coupons.

Numerous studies were conducted using TPB, such as the studies on dishonest action prediction (Beck & Ajzen, 1991), credit counselling (Xiao & Wu, 2008), online tax filing (Ramayah, Mohd. Yusoff, Jamaludin, & Ibrahim, 2009), tax compliance (Bobek & Hatfield, 2003; Damayanti, 2012; Shaharuddin et al., 2012), environmental behaviour (Greaves, Zibarras, & Stride, 2013), and fertility intentions (Ajzen & Klobas, 2013). Besides the use of TPB as the underpinning theory, other studies were performed with the use of TPB with TRA as comparisons, such as the studies of social psychology (Madden et al., 1992), unethical behaviour prediction (Chang, 1998), prediction of condom use (Sutton, Mcvey, & Glanz, 1999), online grocery buying prediction (Hansen, Møller, & Solgaard, 2004), and green product consumption (Paul, Modi, & Patel, 2016).

Despite the preference for using the TPB model in numerous studies, the model comprises disadvantages and limitations. Taylor and Todd (1995b) criticised the TRA and TPB models that require individuals' motivation in showing certain behaviour. The assumptions may have issues in the study of voluntary tax compliance behaviour besides the identical belief structure by the respondents. Furthermore, the unidimensional variable of perceived behavioural control was introduced in the TPB

model to answer all non-controllable elements of behaviour. This action led to criticism of the unavailability of specifically identified factors in the prediction of behaviours and biases from it. In addition, Ajzen (2011) acknowledged several weaknesses in the TPB model, where only the controlled aspects of information processing and decision making by individuals were emphasised. In this case, the affective and cognitive processes that could be biased towards an individual's judgement and behaviour were not considered.

The earlier arguments presented the basis that the use of the TPB model is still inadequate for the understanding of behaviours, especially in the context of voluntary tax compliance behaviour. Marandu, Mbekomize, and Ifezue (2015) argued in their study that the Theory of Planned Behaviour (TPB) is insufficient for capturing the unique factors of tax compliance behaviour and suggested a modified or extended TPB to capture various factors that are specific to tax compliance behaviour. According to Taylor and Todd (1995b), the DTPB model was introduced to improve the understanding of behaviour, which could be more useful in the prediction of voluntary tax compliance behaviour. Due to the above reasons and limitations, this study proposed the adaptation of Decomposed Theory of Planned Behaviour (DTPB) to assess the voluntary tax compliance intention among individual taxpayers with employment income. To illustrate, these individuals would be influential in the workplace and corporate tax compliance decisions.

Table 2.1:
Past research that employed TPB

Author	Area of study	Samples	Theory	Comments/Results
Efebera et al. (2004)	Tax Compliance Intentions of Low-Income Individual Taxpayers	146 useable responses	Extend TPB with subconstructs of vertical equity, horizontal equity, exchange equity, social norms, moral norms, detection risk, and penalty magnitude	A significant positive relationship between compliance intentions and (1) equity perceptions of the tax system; (2) normative expectations of compliance; and (3) penalty magnitude. Two-way interactions between penalty magnitude and exchange equity, and between penalty magnitude and normative expectations.
Saad (2011)	A cross-cultural study comparing fairness perceptions of New Zealand with Malaysian individual taxpayers' compliance behaviour	234 (New Zealand) & 926 (Malaysia) useable responses and in-depth telephone interviews	Equity Theory and TPB (TPB + Fairness Perception, Perceived Tax Complexity, Tax Knowledge)	Malaysian taxpayers have significantly better perceptions of fairness of their income tax systems compared to their New Zealand counterparts, although New Zealand taxpayers are more compliant. Fairness perceptions, which are highly influenced by their tax knowledge and perceived complexity of the tax system, are also influential.
Ajzen & Sheikh (2013)	Anticipated effect was assessed in relation to drinking and avoiding alcohol and in relation to eating and avoiding fast food.	100 students using two administered self-contained questionnaires	TPB model	When all variables were assessed with respect to the same behaviour, the anticipated effect had no independent contribution to the prediction of intentions nor retained a residual effect when the TPB constructs related to the alternative action were included in the prediction equation.

2.5.3 Decomposed Theory of Planned Behaviour as Underpinning Theory

The limitations of previous models in TRA and TPB offer the basis of having a more precise theory to provide better variables and constructs, which are more favourable in gauging the behavioural intentions of individual taxpayers towards voluntary tax compliance. As a result of improvement in the TRA model, the TPB model was further extended by decomposing the constructs of TPB into detailed multidimensional

components as proposed by Taylor and Todd (1995b). The DTPB expansions include the constructs from the Theory of Diffusion of Innovation (DOI) by Rogers (2003), as shown in Figure 2-3. Based on the Theory of Diffusion of Innovation (DOI) by Rogers (2003), Taylor and Todd (1995b) obtained five attitudinal beliefs characteristics, such as relative advantage, compatibility, complexity, observability, and trialability. However, Taylor and Todd (1995b) only adopted the perception of advantage, compatibility, and complexity, which are the three main factors of innovation adoption (Rogers, 1983; Tornatzky & Klein, 1982).

Relative advantage refers to the degree where innovation is perceived to provide better benefits compared to its precursors (Moore & Benbasat, 1991; Rogers, 1983), which is similar to perceived usefulness by Davis (1989 p. 320) (Taylor & Todd, 1995c). According to Rogers (2003), complexity refers to the degree for innovation to be perceived as difficult to understand, operate, and be learnt. Innovation would likely be adopted with easier understanding about it and its use where complexity is expected to have a negative influence on attitude (Taylor & Todd, 1995a, 1995b, 1995c). The earlier study was similar to the perceived ease of use (Davis, 1989; Moore & Benbasat, 1991). Compatibility was defined by Rogers (2003) as the level of innovation capability with the possible adopters' existing values, past experiences, and current needs.

In predicting the consumers' behaviour, Taylor and Todd (1995b) made a comparison between TRA, TPB, and DTPB to examine the appropriateness of these theories. The results from the use of Structural Equation Modelling (SEM) analyses proved that both TRA and TPB had the capability to predict behaviour. However, given that DTPB presented a better explanation of the consumer's behaviour, the researchers

recommended the usage of DTPB as a tool to ascertain the behaviour aspect. Relationship consistencies were established based on past studies including crossover effects of the decomposed beliefs, as shown in Figure 2.3.
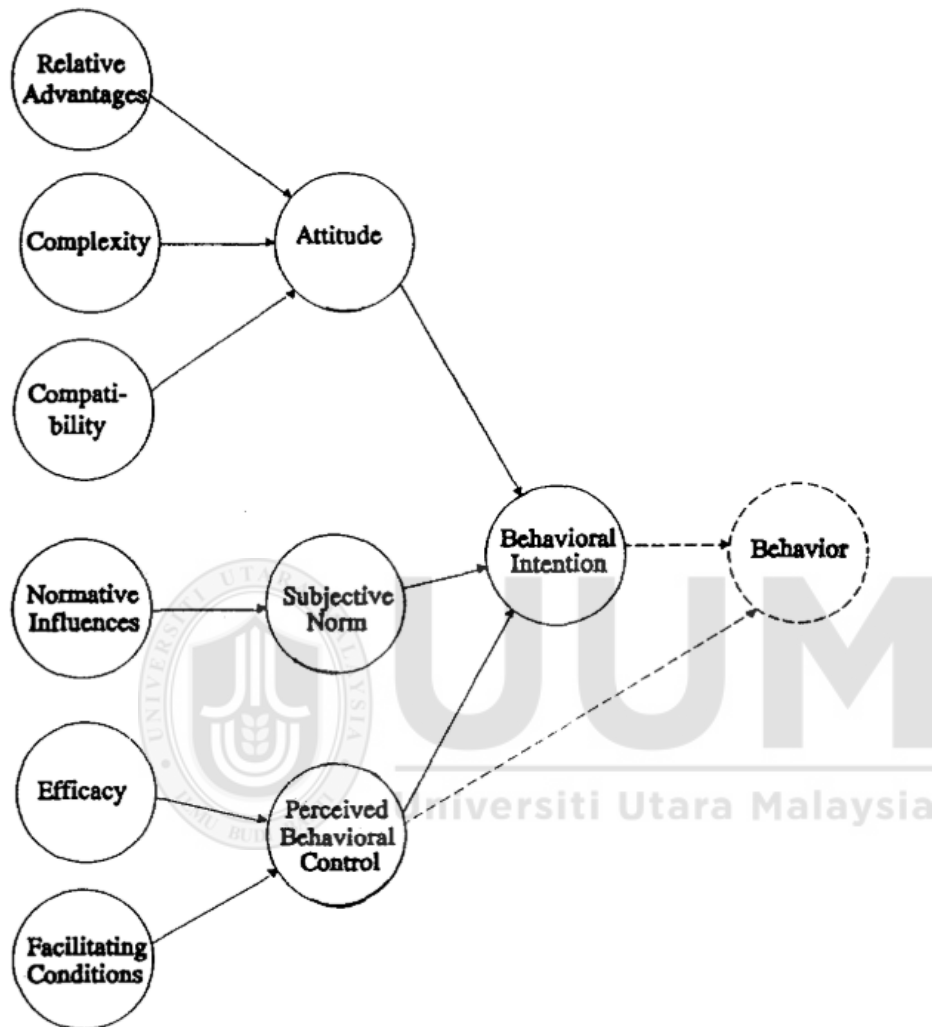
Figure 2.3:
Theory of Planned Behaviour with beliefs decomposed.
Source: Taylor & Todd (1995b)

Taylor and Todd (1995c) compared TAM with TPB and DTPB towards the contribution to the understanding of voluntary IT usage among business school students. A different version was employed compared to the earlier decomposed TPB model. Taylor and Todd (1995c) combined the variables of Theory of Diffusion of Innovation (DOI) with TAM as a measurement of attitude construct of TPB, as shown in Figure 2.4. The

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common constructs, including the ease of use that corresponds to complexity in DOI and perceived usefulness that corresponds to relative advantage in DOI, were operationalised in the same method for the analyses in Taylor and Todd's (1995c) study. Taylor and Todd (1995c) attributed DTPB predictive power based on the inclusion of theoretically-based belief construct varieties and common constructs measurements in all three models. The same method was applied to compare the TRA, TAM, and TPB models.
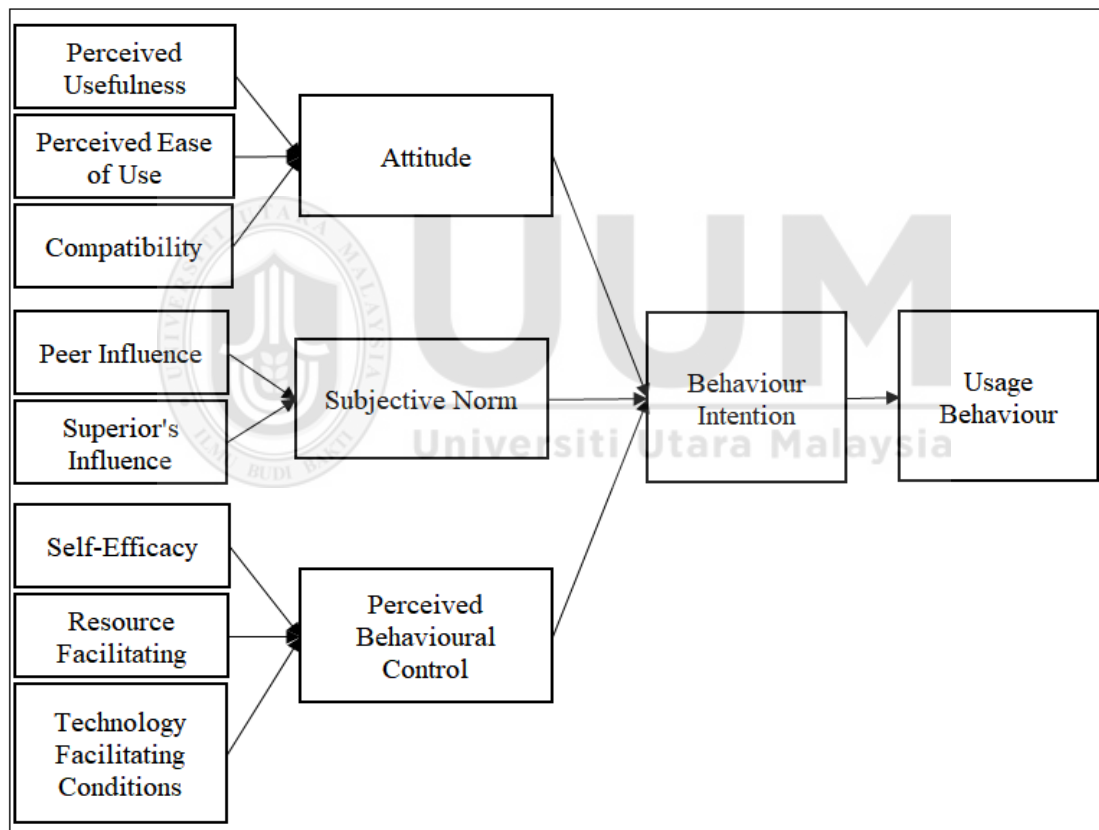
Figure 2.4:
Graphical representations of Decomposed Theory of Planned Behaviour (DTPB)
Source: Taylor & Todd (1995c)

Similar to the predecessors of TRA and TPB, DTPB originates from the context of information technology adoption. The extension of TPB to DTPB is believed to present a better explanation of behavioural intention by decomposing its beliefs structures and

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antecedents (Hastuti et al., 2014; Taylor & Todd, 1995b, 1995c). The decomposition of belief structure could comprise some advantages, considering researchers' ability to present specific factors that influenced the behaviours compared to the universal belief structures (Taylor & Todd, 1995b, 1995c). This feature offered parsimonious explanatory power and further managerial relevance (Hastuti et al., 2014).

According to Taylor and Todd (1995b, 1995c), the study by Hsu and Chiu (2004) on electronic service continuance highlighted that DTPB provides better analytical value compared to the TPB model. However, it has higher complexity due to several numbers of determinants of usage behaviour. Therefore, the decomposed TPB would offer a clearer understanding of the belief and its antecedents of the intention relationships, which are more managerially relevant and applicable in various settings. Due to the large factors that may influence voluntary tax compliance intention via e-filing system, DTPB would be able to provide a comprehensive understanding of voluntary tax compliance behaviour in the electronic settings.

Several researchers including Hsu and Chiu (2004), Koeder, Mohammed, and Sugai (2011), and Taylor and Todd (1995b) have validated the DTPB towards the understanding of behavioural intentions. In the electronic service continuance study, Hsu and Chiu (2004) commented on the complexity of DTPB through the introduction of numerous factors towards usage intention, even though DTPB provides better analytical value compared to the original TPB model. On the contrary, Koeder et al. (2011) focused on normative factors to encourage e-book purchases in Japan. This condition differed from the original DTPB constructs with their decomposition of attitude towards relevance advantage and decomposition of the subjective norm with

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normative influences. Similarly, Khatimah and Halim (2016) examined relative advantage as the antecedent of attitude, while family and social-cultural influence were examined as the antecedents of subjective norm on e-money server usage intention. Thus, various constructs that were used in decomposed TPB provided the flexibility in adjusting the antecedents factors (Bhattacherjee, 2000; Dreezens, Martijn, Tenbült, Kok, & De Vries, 2005). Hence, the decomposed multi-dimensional belief constructs with a stable set of beliefs, which could be implemented in various settings (Rana, Dwivedi, & Lal, 2015), are able to overcome disadvantages in the operationalisation of traditional intention models (Mathieson, 1991; Taylor & Todd, 1995b).

In the comparison of DTPB and TPB with TAM, Taylor and Todd (1995c) highlighted that although DTPB and TPB offer higher variance than TAM, cautiousness should be offered to explanatory power and complexity trade-offs. To illustrate this point, the increase in variance is only powered by seven additional variables (Lee, Kozar, & Larsen, 2003). However, the complexity of the DTPB model provides a more complete and comprehensive understanding of voluntary tax compliance intention behaviour in the electronic settings due to a higher number of factors compared to TAM, which displays more parsimonious results (Taylor & Todd, 1995b). In addition, with the focus on specific beliefs, the factors that influence intention behaviours could be precisely highlighted, leading to a more managerially relevant DTPB model (Rana, Dwivedi, & Lal, 2015). These advantages provide the suitability basis of adopting the DTPB model into this research.

Table 2.2:
Previous studies that used DTPB

Author	Samples	Proposed decomposed belief structures			Comments / Results
		Attitude	**Subjective Norm**	**Perceived Behavioural Control**	
Khatimah & Halim (2016)	1,150 samples of mobile users	Relative Advantage	Family; Social Culture Influence	N/A	Attitude and its decomposed (relative advantage), subjective norm, and its decomposed (social cultural influence and family) can improve the consumers' intention to use e-money mobile in Indonesia
Hsu & Chiu (2004)	Field survey of Web-based tax filing service users.	Perceived Usefulness, Perceived Risk, and Perceived Playfulness	External Influence and Interpersonal Influence	Internet Self-Efficacy and Perceived Controllability	This paper examines post-adoption cognitive beliefs and factors that influence one's intention to continue using (continuance) electronic services (e-services).
Hung, Ku, & Chien (2011)	224 physicians in Taiwan using SEM-PLS to analyse data	Perceived Usefulness and Perceived Ease of Use	Interpersonal Influence	Self-efficacy, Facilitating Conditions, and Personal Innovativeness in IT	Decomposed TPB provides a powerful explanation of the intentions of physicians regarding the use of IS
Rana, Dwivedi, Lal, & Williams (2015)	377 respondents from six selected cities in India	Perceived Usefulness and Perceived Trust	Superior's Influence	Facilitating Conditions	A high variance of 72% explained by the DTPB model on behavioural intentions indicates that the constructs are extremely significant in determining citizens' intentions for OPCRS system adoption

Table 2.2 (Continued)

Author	Samples	Proposed decomposed belief structures			Comments / Results
		Attitude	**Subjective Norm**	**Perceived Behavioural Control**	
Hastuti, Suryaningrum, Susilowati, & Muchtolifah (2014)	320 Indonesian taxpayers in Surabaya city using SEM to analyse data	Perceived Usefulness, Perceived Ease of Use, Perceived Risks and Perceived Playfulness	External Influence and Interpersonal Influence	Internet Self-efficacy, Perceived Controllability and Perceived Resources	Results indicated that Indonesian citizens' intention to use the e-filling facilities and report their annual tax income depends on their attitudes and controls on the systems
Teo & Pok (2003)	1,085 valid respondents collected through newsgroups and forums; and emails that were sent to individuals	Relative Advantage, Ease of Use, Image, Compatibility and Risk	Significant Others	Self-efficacy, Government, and Mobile Operator	Rather than perceived behavioural control factors, attitudinal and social factors play a significant role in influencing intentions to adopt a WAP-enabled mobile phone
Dos Santos & Okazaki (2013)	446 Brazilian universities' faculty members	Ease of Use, Perceived Usefulness, Relative Advantage, and Compatibility	Peer Influence	Facilitating Conditions and Interactivity	Lack of a significant relationship between ease of use and attitude. Core relationships among attitude, subjective norms, behavioural control, intention, and actual behaviour are supported. An exception is made for the path between behavioural control and intention that seems consistent with prior research, which found that the impact of behavioural control could depend on mandatory or voluntary adoption.

Table 2.2 (Continued)

Author	Samples	Proposed decomposed belief structures			Comments / Results
		Attitude	**Subjective Norm**	**Perceived Behavioural Control**	
Shih & Fang (2004)	425 usable on personal banking customers with 53 Taiwanese banks	Relative Advantage, Compatibility, and Complexity	Normative Influence	Efficacy and Facilitating Conditions	Results suggested that decomposing the belief structures into multi-dimensional structures improves the understanding of these relationships. The decomposed TPB model shows better explanatory power for behavioural intention, attitude and subjective norm compared to the TRA and pure TPB models.

Based on Table 2.2, past literature works highlighted the dimensions used to gauge the constructs of attitude, subjective norm, and perceived behavioural control. In the construct of attitude, most of the past literature works commonly utilised the dimensions of relative advantage, perceived usefulness, ease of use, and compatibility with occasionally perceived risks, perceived trust, and perceived playfulness were used as indicators. However, in the studies of voluntary tax compliance, tax knowledge would be an added advantage to induce compliance intention. The knowledge was not included in most of the studies that utilised the DTPB model. Tax knowledge was also excluded in the majority of past tax-related studies, as shown in Table 2.3. Hence, the incorporation of general tax filing knowledge in line with the research objective of this study would be an added advantage.

Subjective norm is one of the determinant factors for TPB and DTPB models. As illustrated in Table 2.2, the common dimensions used are superior influence, peer influence, interpersonal influence, and external influence. These dimensions were utilised in past research works. Some research works included family and social culture influence, normative influence, and significant influence. However, less information was present regarding the method used by taxpayers to obtain information that might induce their compliance decisions. In this information technology era, most of the information, opinions, and discussions are made available online, especially through mass media via the internet. Therefore, the usage of mass media referent could influence the taxpayers' decision towards voluntary tax compliance intention.

Past studies that utilised TPB and DTPB models believed the significance of control belief of individuals. As one of the significant factors of behavioural studies, the understanding that the control dimensions had significant influences on perceived behavioural control is important, which improves the understanding of the effect of the involved control dimensions. The dimensions commonly used in the past studies were self-efficacy and facilitating condition, while several past studies included dimensions, such as government and mobile operator, perceived controllability, perceived resources, and personal innovativeness in IT. However, less information was present regarding financial ability as the control belief. Furthermore, past research did not include the ability to pay dimension in their studies. Considering that taxpayers may be required to settle their tax dues, they may consider their ability to pay taxes before complying with tax laws. Thus, the ability to pay dimension would offer a better understanding of taxpayers' behaviour towards voluntary tax compliance behaviour. Provided that numerous past tax-related studies utilised the TPB model, less information was

available regarding the usage of the DTPB model for a better understanding of the significance of each dimension that affected behavioural intentions. The previous tax-related studies that utilised DPTB are discussed in the following paragraphs.

2.5.3.1 DTPB model in Tax-Related Studies

All the advantages and flexibility of using the DTPB model offer the basis for the use of the DTPB model as the underpinning theory for this study. Bidin and Md Idris (2009) recorded better results when multiple regression analysis was used to test all the decomposed components in the study of zakah payment compliance intention. Furthermore, the DTPB model could effectively elicit the individual taxpayer's salient belief structure and efficiently obtain stable, understandable, and managerial relevance factors (Hung et al., 2006; Wang, 2012). However, limited studies were performed using the full DTPB model in their studies, particularly taxation-related studies.

Hsu and Chiu (2004) were among the earlier adopters of DTPB in their research on the continuance of web-based tax filing services. The 149 useable responses collected from IS Managers of Top 100 companies in Taiwan were analysed using LISREL 8.50. It was then found that web-based tax filing users' continuation intention was influenced by internet self-efficacy and satisfaction, with interpersonal influence, perceived playfulness, and perceived usefulness as the dimensions of satisfaction. The study analysis recorded that internet self-efficacy, perceived usefulness, perceived risk, perceived controllability, perceived playfulness, external influence, and interpersonal influence accounted for 69% of e-service satisfaction variance. Overall, the internet self-efficacy, e-service satisfaction, and perceived control offered 75% variance in the

e-service continuance intention. However, not all dimensions had a significant influence on internet self-efficacy and satisfaction. The external influence, perceived risk, and internet self-efficacy had no significant effect on satisfaction, while perceived controllability placed no significant effect on e-service continuance intention. Given that this study focused on voluntary tax compliance intention via an e-filing system, the majority of the dimensions were not adopted. To illustrate this point, this study did not involve the elements of satisfaction or continuance intentions. The research framework in the study by Hsu and Chiu (2004) is illustrated in Figure 2.5.
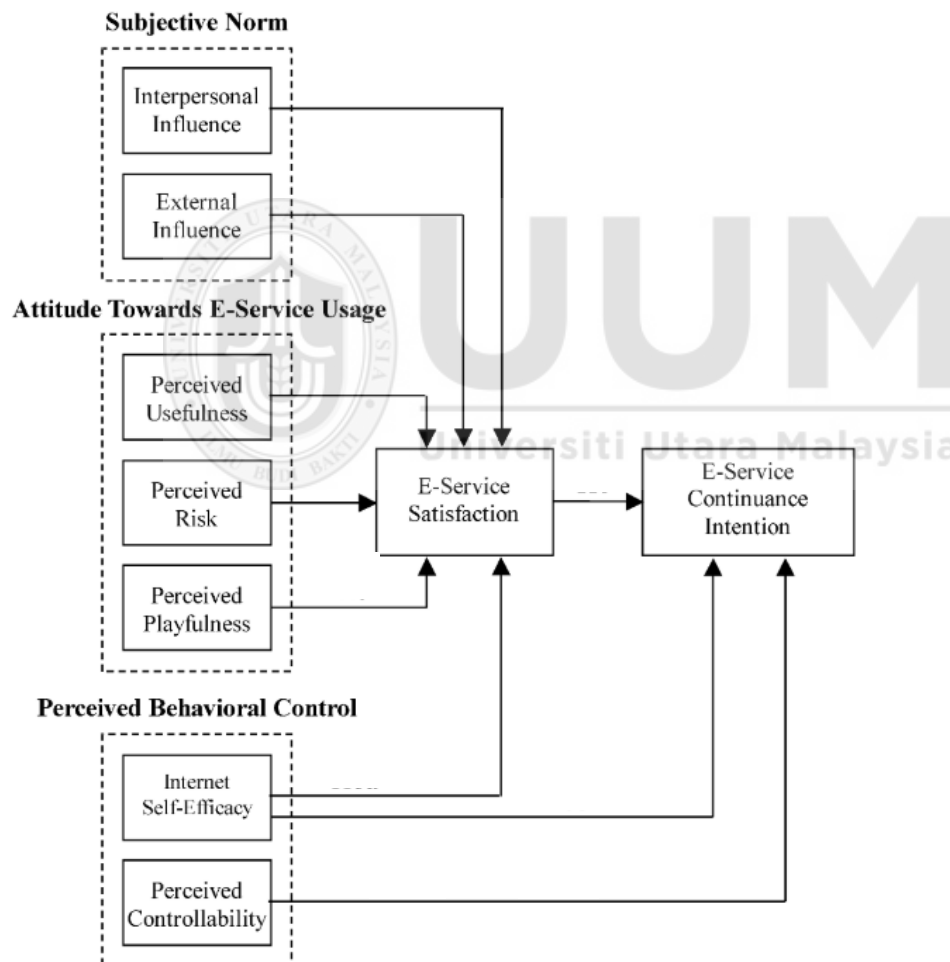
Figure 2.5:
Predicting electronic service continuance with a decomposed theory of planned behaviour
Source: Hsu & Chiu (2004)

The research framework used by Hung et al. (2006) is illustrated in Figure 2.6. The study by Hung et al. (2006) found the importance of perceived usefulness, perceived risk, perceived ease of use, trust, compatibility, interpersonal influence, external influences, facilitating condition, and self-efficacy on user's acceptance of Online Tax Filing and Payment System (OTFPS). Their results demonstrated that all nine antecedents brought significant influences except for perceived innovativeness. Furthermore, perceived innovativeness was found to not have a significant influence on the adopters and non-adopters of OTPS, given that the system was an appealing task especially for the adopters with high personal innovativeness. It was also found that the adoption of DTPB model demonstrated 72% of variance in the taxpayer's behavioural intention. This finding offered the basis of the uses of DTPB as a model with high explanatory power for intention-based theoretical model. In comparison to previous studies of intention-based theoretical models, this study result presented higher total variance in intention in contrast to Taylor and Todd (1995c) with $R^2 = 60$, Mathieson (1991) with $R^2 = 62$, and Venkatesh et al. (2003) with $R^2 = 70$. Hence, the DTPB model could provide better managerial implications, results, and useful recommendations towards developing policies and practices, which were evidence-based and customer-oriented, such as voluntary tax compliance intention via e-filing system.
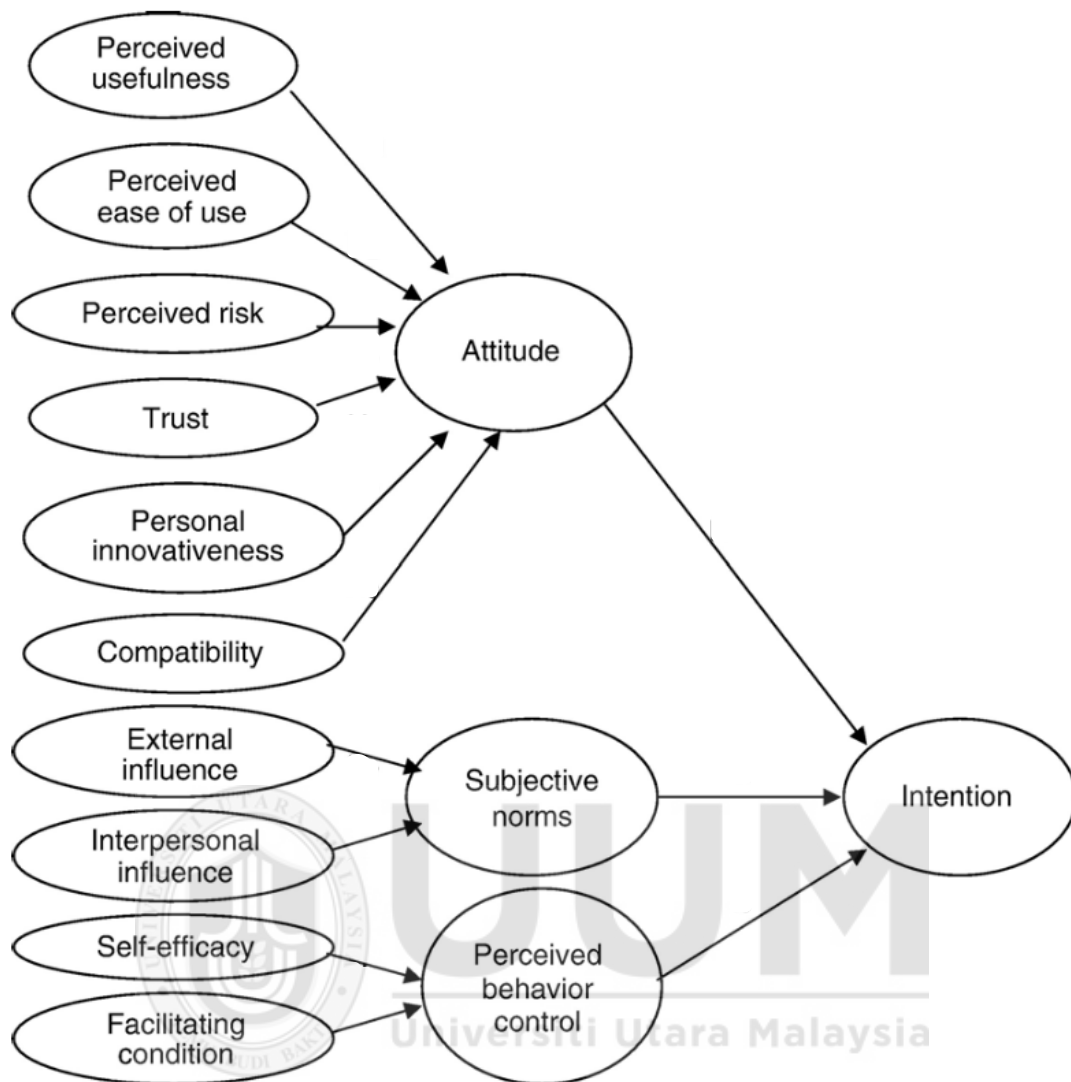
Figure 2.6:
Determinants of user acceptance of the e-Government services: The case of online tax filing and payment system.
Source: Hung et al. (2006)

Figure 2.7 illustrates the research framework by Hastuti et al. (2014). The research on 320 Indonesian taxpayers adoption of the e-filing system by Hastuti et al. (2014) in Surabaya City found that the intention to use e-filing facilities in the declaration of their annual income tax was based on their attitude and control on the e-filing systems. Through the non-probability convenient sampling analysis using Structural Equation Method (SEM), it was recorded that attitude, subjective norms, and perceived

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behavioural control influenced the e-filing user's intention towards the use of e-filing system.

The Indonesian taxpayers realised the impact of e-filing system on the improvement in the effectiveness and efficiencies of annual income tax form submission. However, the researchers found that the taxpayers did not have a complete understanding of the operation of the e-filing system. Therefore, it was important for tax administrators to socialise and educate the taxpayers on the importance of e-filing systems. However, the taxpayers in the era of technology could search for more inputs through the mass media to understand the advantages or disadvantages towards voluntary tax compliance using the e-filing system. The usage of mass media as a tool for information gatherings, alarm for due dates, and voluntary income tax form submission guidance was not widely studied. The DTPB offered the ground for researchers to include this additional dimension.
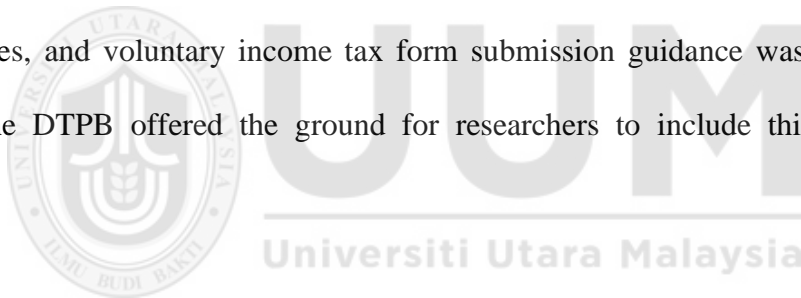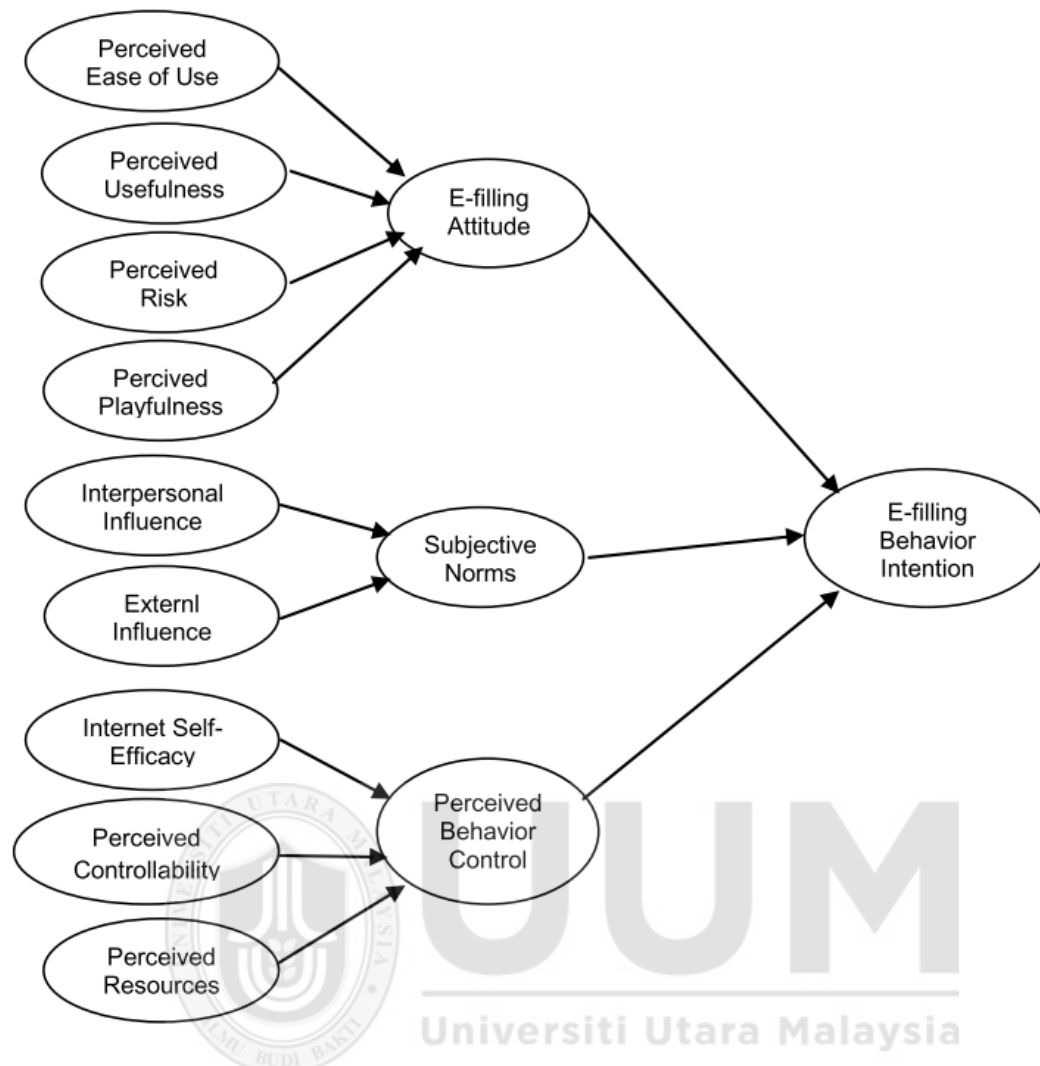
Figure 2.7:
Implementation of Decomposed Theory of Planned Behaviour on the Adoption of E-Filling Systems Taxation Policy in Indonesia
Source: Hastuti et al. (2014)

Based on DTPB, it was proposed that individual taxpayers were more willing to comply

voluntarily with tax laws in submitting income tax forms via e-filing system, given if

the individual taxpayer displayed a positive attitude towards voluntary filing of income

tax form via e-filing together. This situation also considered the important person's

opinion on voluntary tax compliance via e-filing system and involved necessary

resources, opportunities or skills, which was in line with Fu et al. (2006). However,

limited studies of tax behaviour applied the full theory of DTPB. Similarly, Rana,

Dwivedi, and Lal et al. (2015) argued that limited studies employed DTPB in the area

of e-government usage intentions. Subsequently, a basis was provided for this study to

test the theory for its predictiveness, which offered an easily understandable

relationship among the multidimensions.

Table 2.3:
Previous tax studies that used DTPB

Author	Samples	Proposed decomposed belief structures			Comments / Results
		Attitude	**Subjective Norm**	**Perceived Behavioural Control**	
Hsu & Chiu (2004)	Field survey of Web-based tax filing service users	Perceived Usefulness, Perceived Risk, and Perceived Playfulness	External Influence and Interpersonal Influence	Internet Self-Efficacy and Perceived Controllability	This paper examines post-adoption cognitive beliefs and factors influencing one's intention to continue using (continuance) electronic services (e-services).
Hung, Chang, & Yu (2006)	1,099 respondents for online tax filing and payment system	Perceived Usefulness, Perceived Ease of Use, Perceived Risk, Trust, Personal Innovativeness, and Compatibility	External Influence and Interpersonal Influence	Self-efficacy and Facilitating Conditions	Perceived usefulness, ease of use, perceived risk, trust, compatibility, external influences, interpersonal influence, self-efficacy, and facilitating condition are all important determinants of OTFPS with high (R^2 = 72 per cent).
Hastuti, Suryaningrum, Susilowati, & Muchtolifah (2014)	320 Indonesian taxpayers in Surabaya city using SEM to analyse data	Perceived Usefulness, Perceived Ease of Use, Perceived Risks and Perceived Playfulness	External Influence and Interpersonal Influence	Internet Self-efficacy, Perceived Controllability and Perceived Resources	Results indicated that Indonesian citizens' intention to use the e-filling facilities to report their annual taxable income is based on their attitudes and controls on the systems.

Table 2.3 illustrated few tax-related studies that utilised the DTPB model. As previously

discussed, the dimensions used in past studies were commonly researched and studied.

It could be summarised that the dimensions such as general tax filing knowledge, mass

media referent, and ability to pay were not examined in previous studies. Hence, the

inclusion of three dimensions in the DTPB model would offer further understanding of the voluntary tax compliance intention.

2.5.3.2 DTPB model as Underpinning Theory

The method of income tax filing has shifted from the manual to the electronic mode of filing income tax forms. The majority of individual taxpayers that voluntarily complies by filing their income tax forms and utilising the e-filing system are considered fast, effective, and efficient. Although this study focused on the voluntary compliance intention, the advantages of e-filing as a voluntary compliance tool should not be disregarded. To illustrate this point, the facilitation of e-filing system by tax administrators, such as IRBM, is conducted to provide better services and stimulate the compliance behaviour among taxpayers. Apart from behavioural theories including TRA, TPB, and DTPB, the technology acceptance models including TAM and UTAUT with similar factors would be assessed to enhance the understanding of the taxpayers' voluntary tax compliance intention.

DTPB was considered in the study of behavioural intentions by individual taxpayers towards voluntary compliance. According to Taylor and Todd (1995b), decomposing TPB offers several advantages compared to unidimensional belief models. The authors also highlighted that monolithic structures of beliefs unlikely represent a variety of dimensions, which will be consistently related to intention antecedents, as seen in the research by Shimp and Kavas (1984). The relationships in the decomposed beliefs would become clearer and be easily understood, given that specific factors that influence the behaviour could be highlighted (Taylor & Todd, 1995b). A firm set of

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beliefs could also be provided and applied in various settings (Taylor & Todd, 1995b). The decomposition of TPB overcomes the operationalisation problems, which are highlighted in most of the traditional intention models (Mathieson, 1991).

Past researchers highlighted the significance of decomposed TPB. Susanto and Goodwin's (2011) study on SMS-based e-government services users' acceptance agreed with Taylor and Todd's (1995c) point that the decomposition of perceived behavioural control, subjective norm, and attitude into specific beliefs offers more practical benefits with a better explanation of intention and better predictive power of its core variables. The tenuous relationship of perceived behavioural control and intentions in the TPB model encourages further investigation (Taylor & Todd, 1995b), particularly to pinpoint the factors of voluntary tax compliance by adapting the decomposed TPB model. In the comparisons of three intentions related to the theoretical models of TAM, TPB, and DTPB on users' acceptance of online tax filing and tax payment system in Taiwan, Hung et al. (2006) found that their proposed model showed higher explanatory power with $R^2 = 72$ for intention. This finding also included the comparisons of other prior studies with $R^2 = 60$ by Taylor and Todd (1995c), $R^2 = 62$ by Mathieson (1991), and $R^2 = 70$ findings by Venkatesh et al. (2003). The past results presented higher predictiveness, which was in line with previous researches with multidimensional constructs. Therefore, higher predictiveness offers a better explanation of the intentions that will ultimately lead to actual behaviour. The DPTB has been proven to offer better explanatory power and a strong basis to extend the model by considering the voluntary tax compliance intention via an e-filing system.

Considering the past studies that adopted the DTPB model, particularly the tax-related studies, the advantages of the DPTB model made significant emphasis on the adoption of the DTPB framework, as shown in Figure 2.4 by Taylor and Todd (1995c). However, certain dimensions were omitted from the original Taylor and Todd (1995c) framework. It was suggested that the general tax filing knowledge was included, while superior influence and resource facilitating were omitted in line with the purpose of this study.

General filing tax knowledge was included in this model, given that past research works indicated that tax knowledge was an important determinant for tax compliance behaviour. Furthermore, the past research works that utilised the DPTB model did not include general tax filing knowledge as one of the dimensions.

The superior influence was omitted from the original framework in line with the objective of this study. As highlighted by Bhattacherjee (2000), superior influence could be significant in the organisational settings, although it might not produce substantial explanatory power impact on individual usage context. However, superiors may be a part of colleagues as tested in peer influence. Despite the availability of options to elect Monthly Tax Deductions (MTD) as final tax, the taxpayers could refer to their peer colleagues before providing the employers with the relevant documents and information to be entered into their MTD computations.

Resource facilitating conditions were omitted as they referred to the time and money to use the facilities. Given that the taxpayers were not required to purchase any systems or peripherals to operate the e-filing system, resource facilitating conditions were not considered in this study. However, technology facilitating conditions, which Taylor and

Todd (1995c) referred to as technology compatibility issues, were regarded as facilitating conditions.

2.5.4 Technology Acceptance Theories

Considering that this study was partially related to the system usage of an e-filing system, the technology acceptance theories were reviewed for the parsimonious predictive power. The well-known technology acceptance theories, such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), were examined for the predictive powers.

2.5.4.1 Technology Acceptance Model

According to TRA, the user's actual behaviour is influenced by the behavioural intention that is influenced by an individual's attitude and subjective norm. Based on TRA, Fred Davis' 1986 thesis introduced TAM, which was derived from TRA variables and focused directly on technology adoption (Davis, 1986). Prior to the system usage by users, the main aim of the TAM model was to predict the acceptance of information systems with practical value for system evaluation and managerial intervention guidance while detecting underutilised computer technology problems (Davis, Bagozzi, & Warshaw, 1989). Therefore, Information Technology (IT)/Information System (IS) researchers employed TAM as one of the models to predict and explain the determinants in motivating users towards accepting and adopting new information technology systems (Davis et al., 1989; Davis, 1989).

As illustrated in Figure 2.8, the original TAM posits that attitude mediates perceived usefulness and perceived ease of use on behavioural intention. However, it was found that attitude had a lesser mediating effect on behavioural intention and was not included in the final model (Davis et al., 1989; Davis, 1989; Venkatesh & Davis, 1996). According to the model of TAM, perceived ease of use and perceived usefulness are the core determinants of IT and IS acceptance, adoption, and usage behaviour. Perceived usefulness (PU) is defined as *"the degree to which a person believes that using a particular system would enhance his/her job performance"* (Davis et al., 1989, p. 985). Perceived ease of use (PEOU) is defined as *"the degree of which a person believes that using a particular system would be effortless"* (Davis et al., 1989, p. 985).

Based on TAM, PEOU was found to have a positive influence on PU. Both PEOU and PU were found to mediate the external variables, such as system characteristics, user involvement in the design, nature of implementation, and training process (Venkatesh & Davis, 1996). While PU was found to directly influence the behavioural intention to use (BI), both PU and PEOU had a significant influence on attitudes towards use, which influenced BI and determined the actual system use. As suggested in the TAM model, the effect of the external variables on the intentions that were mediated by PU and PEOU was consistent with the TRA model. However, it was found that attitude only had a partial mediating effect on intention, while subjective norm had no effect on it (Davis et al., 1989).

The TAM has been applied in diversified areas of studies such as telemedicine technology acceptance (Hu et al., 1999), electronic commerce acceptance (Pavlou, 2003), internet usage (Porter & Donthu, 2006), online banking (Pikkarainen et al.,

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2010), smartphone for learning (Seket et al., 2011), digital divide and transformation government (Sipior et al., 2011), learning management system (Fathema & Sutton, 2013), adoption of software (Wallace & Sheetz, 2014), and green information technology (Akman & Mishra, 2015). Moreover, TAM was compared with other theories including TPB in the prediction of users intention (Mathieson, 1991), TRA and TPB for internet banking behaviour (Yousafzai, Foxall, & Pallister, 2010), and the use and gratifications (U&G) theory (Joo & Sang, 2013). Meanwhile, few studies extended the theory of TAM by integrating control, intrinsic motivation and emotion (Venkatesh, 2000), trust and risk (Pavlou, 2003), perceived security and privacy of the internet (Lallmahamood, 2007), and perceived mobility, perceived control and skill, perceived enjoyment, perceived connectedness, and satisfaction (Park et al., 2014).
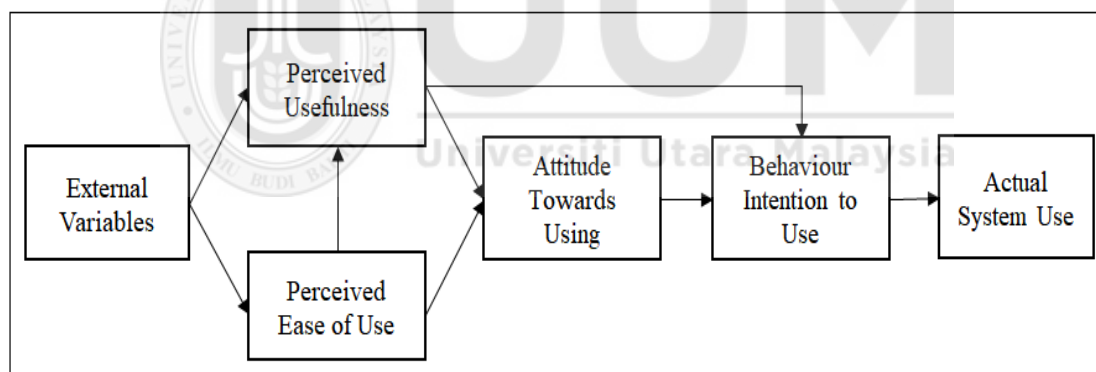
Figure 2.8:
Graphical representations of Technology Acceptance Model (TAM)
Source: Davis (1989)

Ramayah and Jantan (2004) stated that TAM is suitable to predict and explain technology usage in Malaysia. Furthermore, TAM is regarded as a model that is highly influential in IS/IT acceptance determinants, which specifically adopts the TRA for the study on the usage of IT. On the other hand, TRA is generally used in consumer behaviour studies (Ramayah & Jantan, 2004). In line with Ramayah and Jantan's (2004)

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statement on TAM as the most influential model for IT usage determinants, Fu, Chao, and Farn (2004) emphasised that perceived usefulness and perceived ease of use are the IT acceptance determinants as hypothesised in TAM (Davis, 1989).

In supporting TAM as the best model for technology acceptance prediction, Mathieson (1991) and Hubona and Cheney (1994) highlighted that TAM showed parsimony, powerful predictive power (Hubona & Cheney, 1994; Igbaria et al., 1997; Venkatesh & Davis, 2000), and ease of applications in different situations (Igbaria et al., 1997; Ramayah & Jantan, 2004). However, Fu, Chao, and Farn (2004) argued that TAM was developed in a homogeneous context of IT usage within organisational settings in contrast to the tax filing scenario. In this case, the opportunity and expertise to use information systems were not equal or adequate for each individual.

In the comparison between TAM and TPB, Mathieson (1991) stated that TAM comprises a slight empirical advantage over TPB (Hubona & Cheney, 1994) although it only presents general information on the users' opinion of a system. It could be concluded from the comparison of TAM and TPB that the usage intention or actual usage is approximately the same (Mathieson, 1991; Ramayah & Jantan, 2004; Taylor & Todd, 1995c). However, in the introduction of new technology where end-users may need to weigh the benefits and risks, TAM provides an added advantage over TPB. To illustrate this point, TAM focuses on perceived benefits compared to TPB that enables positive and negative beliefs (Horst, Kuttschreuter, & Gutteling, 2007).

The TAM model does not consider the demographic factors, compared to UTAUT that resulted in 70% of variance from its longitudinal study (Venkatesh et al., 2003).

According to Ramayah and Jantan (2004), the users' specific opinion, particularly on specific technology or system, remains lacking although TAM is generally important in the prediction and explanation of technology acceptance. Although the advantages of TAM were previously mentioned in this study, criticisms were made regarding TAM, which overlooked the influences of the social aspect on technology adoption (Fu et al., 2006; Mathieson, 1991; Venkatesh & Morris, 2000). Venkatesh and Davis (2000), who incorporated the subjective norm into their model known as TAM2, recorded that the subjective norm was significant only when the usage setting was on the mandatory basis instead of the voluntarily setting. Despite the previously mentioned advantages and disadvantages of TAM, Rana, Dwivedi, and Williams (2013) found that in the analysis of e-government services by citizens, TAM is the ideal model to be used.

A few limitations of TAM are present. To illustrate, based on Sun and Zhang's (2006) examinations of data from 55 articles, it was argued that TAM comprises limitations in explanatory power and inconsistent relationships among constructs due to the use of different methods, considering that most of the experimental studies were conducted conveniently with the involvement of students. The response by students may not be reliable and cannot be used to represent the real workplace. Accordingly, the studies of technology acceptance should be performing in the longitudinal approach, given that individual's perceptions may differ between the technology introduction stage and actual usage. As suggested in the previous studies by Agarwal and Prasad (1998) and Venkatesh et al. (2003), Sun and Zhang (2006) agreed to the inclusion of moderators for future research works that utilise the TAM model. Given that the TAM model has been frequently extended and refined, the robustness of the TAM model may be questionable. Rodrigues et al. (2016) argued that the frequency of extension and

refinement of the TAM model indicated its failure to explain the adoption of all circumstances. It was highlighted that some important factors were excluded. In addition, PEOU and attitude factors were inconsistent, which prevented individuals from using the information system. It was also indicated that due to the mentioned factors, TAM2 was introduced to overcome the limitations of TAM.

The introduction was TAM2 was made by Venkatesh and Davies in 2000 with the inclusion of subjective norm, image, and voluntariness as the social influence processes. Meanwhile, the cognitive instrumental processes included job relevance, output quality, result demonstrability, and perceived ease of use, with the constructs of experience and voluntariness functioning as the moderators besides the theory of TAM (Ooh et al., 2009; Venkatesh & Davis, 2000). Subjective norm is theorised to influence image, considering that an important individual in the social group believes that the individual should perform a behaviour to outperform others within the group (Ooh et al., 2009). In contrast, Venkatesh and Davis (2000) excluded the attitude towards use while maintaining the core ideology of the model (Turner, Kitchenham, Brereton, Charters, & Budgen, 2010).

It is theorised through TAM2 that instead of compliance, identifications such as internalisations would occur regardless of the system usage being mandatory or voluntary. Voluntariness is defined as the degree where adoption decision is perceived as non-mandatory by potential adopters (Venkatesh & Davis, 2000). In TAM2, the social influence processes including subjective norm, voluntariness and image, and cognitive instrumental processes such as job relevance, quality of output, demonstrability of result, and perceived ease of use were found to have a significant

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influence on user's acceptance. As a result, a usage intention variance ranging from 34% to 52% (Venkatesh & Davis, 2000).

In the year 2008, Venkatesh and Bala proposed a model known as TAM3 with the extension of TAM2 theory by including computer self-efficacy, perceived external control, computer anxiety, computer playfulness, perceived enjoyment, and objective usability as the new variables. However, this theory was not tested broadly in other studies. Through TAM3, the experience was employed as the moderator for the major relationships of the model (Venkatesh & Bala, 2008).

Several criticisms on TAM and extended models including TAM2 and UTAUT have been presented. The failure of TAM to include contextual factors, such as one's goal towards technology use and various cultural decision-making aspects, the group role or self-regulation processes, has led to criticism towards the model (Bagozzi, 2007). Furthermore, Bagozzi (2007) argued that the TAM model is highly deterministic, while Benbasat and Barki (2007) criticised TAM, TAM2, and UTAUT models for regarding the actionable antecedents of belief perceptions as a 'black box'. Given the focus of this study on tax compliance behaviour in the technology era, several constructs from TAM models were considered to be included in the study.

2.5.4.2 Unified Theory of Acceptance and Use of Technology

Putting TAM2 into consideration, Venkatesh et al. improvised the model by introducing UTAUT. The theory of UTAUT was introduced by Venkatesh et al. in 2003 through the synthesis of eight other technology acceptance theories of TRA, TAM, Motivational

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Model (MM), TPB, Combined TAM-TPB, Personal Computer Utilisation Model (PCUM), Innovation Diffusion Theory (DOI), and Social Cognitive Theory (SCT) (Venkatesh et al., 2003). According to the authors, UTAUT presents the core determinants of users' technology acceptance and usage behaviour, such as performance expectancy, effort expectancy, social influence, and facilitating conditions. These determinants are useful tools for managers in assessing the likelihood of organisational technology acceptance.

Performance expectancy is defined as *"the degree to which an individual believes that using the system will help him or her to attain gains in job performance"*. Effort expectancy is defined as *"the degree of ease associated with the use of the system"*. Following that, social influence is defined as *"the degree to which an individual perceives that important others believe he or she should use the new system"*, while facilitating conditions is defined as *"the degree to which an individual believes that an organisational and technical infrastructure exists to support use of the system"*. According to Venkatesh et al. (2003), all the core determinants are moderated by variables including gender, age, experience, and voluntariness of use. However, it was also demonstrated in their study that computer self-efficacy, anxiety, and attitude towards the use of technology did not significantly influence the usage intention. Therefore, these elements were not included in UTAUT final model.

In reviewing the theoretical models for e-government adoption by citizens, Rana, Dwivedi, and Williams (2013) found that in the analysis of e-government services by citizens, TAM is the ideal model to be used. However, in contrast to UTAUT, the TAM model does not consider the demographic factors, which resulted in 70% of variance

from the longitudinal study (Venkatesh et al., 2003). Nevertheless, Shin, Shin, Choo, and Beom (2011) argued that the determinant coefficients could only be achieved when the moderators are taken into account. However, the synthesis of eight other technology acceptance theories of TRA, TAM, Motivational Model (MM), TPB, Combined TAM-TPB, Personal Computer Utilisation Model (PCUM), Innovation Diffusion Theory (DOI), and Social Cognitive Theory (SCT) offers the parsimonious predictive power, which also considered the moderating influences of demographic factors.
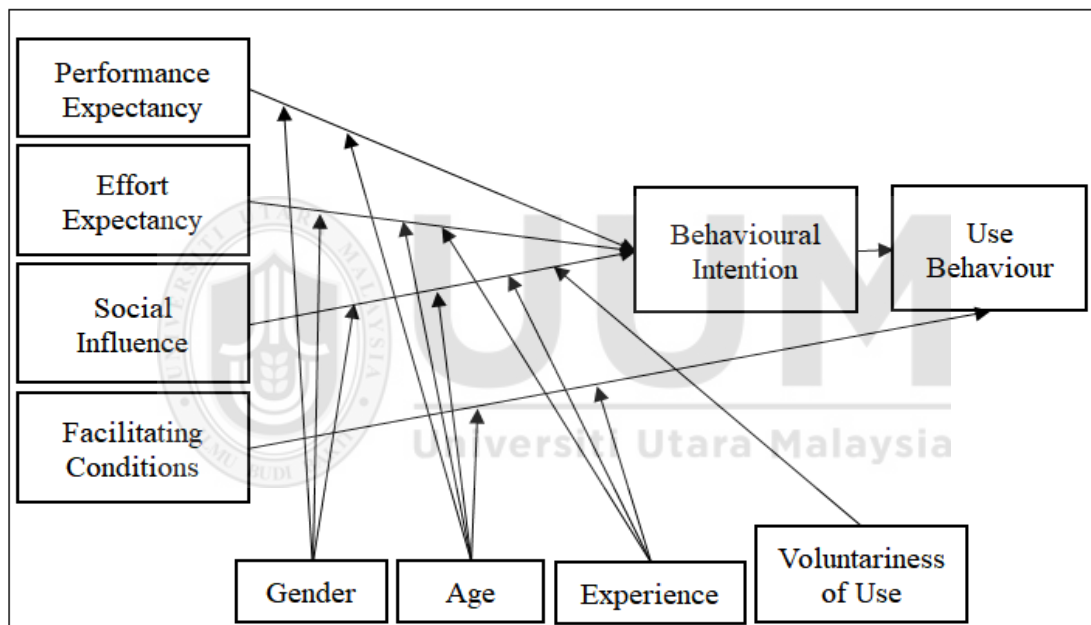
Figure 2.9:
Graphical representations of Unified Theory of Acceptance and Use of Technology (UTAUT)
Source: Venkatesh et al. (2003)

The popularity of the UTAUT model has been highlighted in various fields and countries (Ahmad, Tarmidi, Ridzwan, Masdiah, & Rusli, 2014; Al-Qeisi, Dennis, Alamanos, & Jayawardhena, 2014; Chang, 2012; Im, Hong, & Soo, 2011; Venkatesh & Zhang, 2010; Zhou, Lu, & Wang, 2010). The review by Williams, Rana, and Dwived (2015) of 451 articles on the UTAUT model recorded that the majority of the articles

solely cited the theory, with only 16 articles using UTAUT for non-quantitative methods, 12 articles only using several constructs of UTAUT, and only 16 articles using and testing all the core constructs of UTAUT. The meta-analysis indicated that not many studies utilised the complete model of UTAUT.

Several tax studies have expanded the UTAUT model, which focuses on the online tax filing area. McLeod Jr., Pippin, and Mason (2008) extended the UTAUT by adding the experience variables of tax domain and computing experiences, trust variables of trusting beliefs, and perceived risks in their study of students in accounting and information systems. The five factors model in this study was found to have a significant impact on software developers and governments to encourage e-filing adoption. In India, Balmi (2016) examined the individual taxpayer's e-filing adoption by extending UTAUT with the trust of the government, trust of the internet, computer anxiety, and optimism bias. As a result, all these factors could improve the electronic income tax return form filing. The study by Balmi (2016) further reinforced the similar previous study by Carter, Schaupp, and Mcbride (2011). Moreover, Lu and Nguyen (2016) combined UTAUT and IS success models in their study on online tax filing adoption by 137 taxpayers in Vietnam. The study recorded the significance of the integrated UTAUT and IS success model in the prediction of electronic filing intention among Vietnamese taxpayers.

In 2012, Venkatesh, Thong and Xu (2012) introduced UTAUT 2 as the extension of UTAUT with the inclusion of hedonic motivation, price value and habit as the extended variables. The two-staged online surveys collected from mobile internet consumers over a duration of four months demonstrated a variance of up to 74% in behavioural

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intention. Although the model is relatively new, UTAUT 2 model was employed in the studies of mobile payments (Morosan & DeFranco, 2016; Slade, Williams, & Dwivedi, 2013, 2014), mobile learning (Raman & Don, 2013; Yang, 2013), health and fitness apps (Yuan et al., 2015), mobile banking (Alalwan, Dwivedi, & Rana, 2017), and m-technologies adoption (Baabdullah, Dwivedi, & Williams, 2014).

In the studies of behavioural intention on information technology services usage, TAM, TPB, and DPTB showed stronger explanatory power compared to UTAUT (Giovanis, Athanasopoulou, Assimakopoulos, & Sarmaniotis, 2019; Mohammadi, 2015; Püschel, Mazzon, & Hernandez, 2010). In the case of UTAUT, the attitude of individuals towards behavioural intention was not taken into account. Venkatesh and Davis (2000) suggested the importance of considering an individual's attitude in explaining behavioural intention. Furthermore, the meta-analysis by Baptista and Oliveira (2016) suggested that attitude plays the most significant role in behavioural intention. Therefore, favourable considerations of taxpayer's attitudes towards voluntary tax compliance would be vital for compliance studies. Given this study focus on voluntary tax compliance behavioural intention, the theories of technology acceptance including TAM and UTAUT would be less suitable for this study.

2.6 Determinants of Voluntary Tax Compliance

This section discusses the definitions and determinants of voluntary tax compliance. The compliance frameworks adopted by tax administrators will be discussed in the subsequent section. This will be followed by voluntary tax compliance intention and its antecedents, attitude and its decompositions, subjective norm and its decompositions,

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and perceived behavioural control and its decompositions, which are presented in the subsections.

Based on the economic theory of crime by Becker (1968), tax compliance was widely and extensively studied. Among the pioneer of the economic theory of crime were the psychological and economic approaches, which were used to examine tax compliance determinants by Allingham and Sandmo (1972). The theories were expanded to factor in various influences of tax compliance behaviour. According to Alm et al. (1995), numerous motivating factors of an individual behaviour should be identified to explain tax compliance through the psychological and sociological theories of behaviours, which are beyond the economics of crime. Posner and Rasmusen (1999) and Lederman (2003) recorded a general societal norm both for complying taxpayers and noncompliance taxpayers, where different strategies could be applied towards encouraging more voluntary tax compliance.

Braithwaite (2003) specified the underlying compliance and noncompliance into five motives and classified them into motivational postures. The motivation postures comprise the deference and defiance linked motives. Deference, which consists of commitment and capitulation, is positively linked to voluntary tax compliance, while defiance that comprises disengagement, game playing, and resistance has a negative link. Conversely, enforced tax compliance, tax evasions, and tax avoidance are negatively linked to deference and positively linked to defiance. Following that, compliant taxpayers, which are compliance-enforced, perceive the authorities as legal power with a possibility to show resistance instead of commitment or capitulation motives. In contrast, it was deduced that tax avoidance had a positive relation to game

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playing, given that legal advice was sought to reduce taxes, while tax evasion was highly correlated with disengagement and resistance. However, the enforced voluntary tax compliance was not considered to be in line with the research objectives.

A slippery slope framework was introduced (Kirchler, 2007; Kirchler et al., 2008), which differentiates between the voluntary tax law compliance intention and taxpayers compliance intention through enforcement activities. Assumptions were made on tax compliance motivation based on individual taxpayer's attitudes, experiences, and feelings towards paying taxes and the tax administrators (Kirchler, 2007). Furthermore, the activities conducted by the tax administrators may influence and motivate taxpayers' compliance behaviour (Feld & Frey, 2002; Kirchler et al., 2008; Manhire, 2015). Kirchler, Muehlbacher, Hoelzl, and Webley (2009) argued that in contrast to the economic theory, psychological research proved that prior investment of time, effort, or money impacts tax compliance decisions. It was also found that the aspirational levels of tax compliance decision functioned as a reference point, which was determined by effort changes (Kirchler et al., 2009). The emphasis on voluntary compliance role among individual taxpayers is vital, considering that most individuals are not subject to third-party reporting, such as auditors and tax agents. In this case, the possibility of underreporting employment incomes or overstatement of deductions could lead to non-compliant behaviours (Branham, 2009). Therefore, Kirchler and Wahl (2010) specified compliance intentions into voluntary compliance and enforced compliance as compliance behavioural intentions, while evasion and avoidance were specified into the non-compliant behavioural intention.

An extensive review of individual tax compliance determinants works of literature recorded that tax compliance behaviour could be categorised into three main categories, namely demographic, economic and behavioural behaviour (Richardson, 2006). Age, education, gender, and occupation are examples of demographic determinants, while income source, income level, tax rates, and sanctions are the economic determinant. Following that, complexity, fairness, peer influence, ethics, and revenue contact are examples of behavioural determinants (Sapiei, Kasipillai, & Eze, 2014). While Macgregor and Wilkinson (2015) found that patriotic individuals are more positively significant about tax payment in support for their country, more beliefs are instilled in the tax system compared to non-patriotic individuals. Hence, the economic factor of individuals and other demographic factors offered several reasonable considerations for this study.

The psychological approach is vital for increasing voluntary tax compliance (Kirchler et al., 2008; Wenzel, 2005). Compared to the focus on economic deterrence factors, the shift to the social-psychological approach would improve the understanding of complex taxpayers' behaviour. To illustrate, most social-psychological researchers believed that non-economic factors are the main determinants of taxpayers' compliance decisions instead of the economic factors (Mohdali et al., 2014). Similarly, the shift from the theory of economic crime to a psychology-based approach is presented by tax administrators to reduce tax avoidance and tax evasion (Sudarma & Darmayasa, 2017). In addition, tax administrators and IRBM have taken the step to introduce lower penalties for voluntary declaration and tax amnesty cases.

Kornhauser (2007) argued that the enforcement method through audits and penalties only represents a small portion of voluntary tax compliance. To boost voluntary tax compliance, taxpayers should be persuaded until they make attempts for an honest and complete report of income (Branham, 2009). However, taxpayers may also comply with the tax laws due to several reasons, such as fear of punishments, the condition to comply with education and social influences, or the belief that compliance is a civic duty (Branham, 2009). Furthermore, Alm et al. (2011) argued that although the presence of a "punishment paradigm" such as detection and punishments is important, other provisions of service tools should be made available to taxpayers through better facilities and services. According to Mohdali et al. (2014), indicators have demonstrated that the threat of punishment with tax penalties in Malaysia does not influence taxpayer's attitudes. However, other possible factors are more influential in encouraging taxpayers to voluntarily comply with tax laws. To illustrate this point, two conscious choices of whether to cooperate or evade are available for taxpayers in their compliance with tax law (Manhire, 2015). This condition provides the basis that punishments may not necessarily motivate the taxpayers to voluntarily submit income tax forms.

According to Levi, Sacks, and Tyler (2009), taxpayers are capable of determining the achievement of government obligations towards them, where any failure could result in lower confidence levels and lower tax compliance. It would be less common for individuals to evade taxes with fear-driven decisions by authorities and intrinsic motivation among individuals to pay tax (Alm, McCLelland, & Schulze, 1993; Andreoni et al., 1998; Bodea & Lebas, 2016; Feld & Frey, 2002). However, many taxpayers have a higher willingness to voluntarily comply without fear or punishments

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due to their concern about the methods to comply instead of whether to comply or not. Onu and Oats (2018) argued that many taxpayers are motivated to be compliant, although they are not concerned about being audited, penalised, or charged, as observed in many tax behaviours studies.

In Malaysia, voluntary tax compliance was initiated since the introduction of the Self-Assessment System (SAS), where taxpayers are required to compute tax liability and submit income tax forms within a stipulated time (Che Azmi et al., 2016; Saad, 2009). Voluntary tax compliance refers to the willingness to timely comply with tax laws by reporting and filing the correct assessment and payment of taxes without enforcement actions (Kira, 2017; Silvani & Baer, 1997). Augustine and Rufus (2019) defined voluntary tax compliance as the belief regarding the taxpayer who will collaborate with the tax system and tax authority to file a genuine and accurate income tax form. Furthermore, voluntary tax compliance refers to the willingness of individuals to prepare and file income tax forms without any types of government involvement (Augustine & Rufus, 2019). As previously discussed, tax compliance could be defined in various ways. However, this study focused on the determinants of voluntary tax compliance intention behaviour among salaried taxpayers via e-filing system. Accordingly, tax compliance frameworks, voluntary tax compliance intention, and the determinants of voluntary tax compliance intention will be presented in the subsequent sections.

2.6.1 Compliance Frameworks by Tax Administrators

In general, compliance frameworks are adopted by tax administrators to achieve the visions and missions. The tax compliance frameworks could vary in shapes and features according to the visions and missions of tax administrators in each country. Based on the BISEP model, several factors determine the taxpayers' attitude towards tax compliance, such as business, industry, sociological, psychological, and economic condition (OECD, 2010a). As shown in Figure 2.10, the compliance pyramid represents the varieties of taxpayers' attitudes towards tax compliance from the "*willingness to do the right thing*" (example of voluntary compliance) until "*having decided not to comply*" (example of resistance to comply), which is related to the interventions by regulators with relevant actions for each attitude. The BISEP was recommended to the Australian Tax Office (ATO) by the Cash Economy Task Force to manage compliance issues of the cash economy (CETF, 1998). This model was adopted by many tax researchers in their studies and tax administrators, such as IRBM, HRMC, and ATO towards understanding the taxpayers' compliance behaviour.
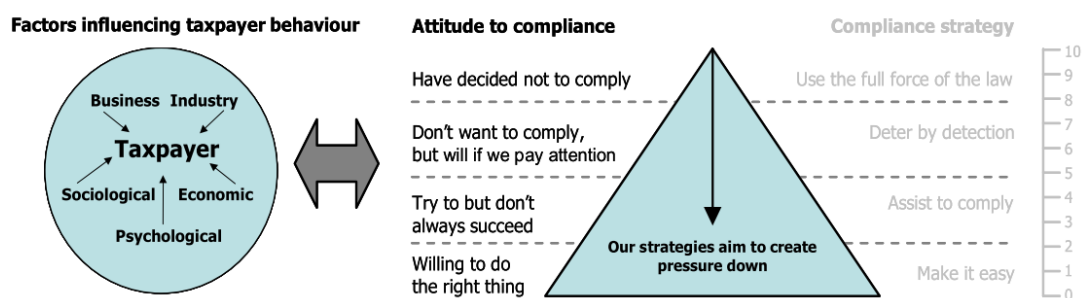
Figure 2.10:
BISEP Model - Factors influencing taxpayer behaviour and the spectrum of taxpayer attitudes to compliance.
Source: Adapted from "*Tax Compliance and Tax Accounting System*" (OECD, 2010a)

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Due to the feasibility of tax audits on individual taxpayers, the effectiveness of voluntary tax compliance would increase by focusing on encouraging individual taxpayers who are willing to provide a complete and honest report on all the income (Branham, 2009). Furthermore, Branham (2009) stated that influencing social values and norms through the use of mass media to address non-compliance while improving the compliance of marginal individual taxpayers is perceived as a valuable tool. It offers legal actions by providing appropriate mass media and advertising campaigns to encourage voluntary compliance with a long-term effect on behavioural norms.

Differences are present in tax culture, as stated by Hyun (2006) on this matter between Korea and Japan based on people's attitudes towards the government in terms of legality, national government, and parliament. Similarly, several studies presented the importance of cultural differences in influencing tax compliance (Richardson, 2008; Tsakumis, Curatola, & Porcano, 2007). However, due to the similarities in history, culture, background, and laws including tax laws, the tax compliance model used by the tax administrator in Singapore could offer a basis in achieving a higher voluntary tax compliance rate.

Following the introduction of the e-filing system in 1998 after the electronic filing through telephone, IRAS achieved the biggest milestone by becoming the most effective and popular e-government interactive site within a short time. This condition was desired by many tax administrators (Bird & Oldman, 2000). The achievement by IRAS was attributed to the stronger fundamental changes instead of the simple introduction of e-filing with a good website (Bird & Oldman, 2000). In contrast to the pyramid models adopted by many tax administrators, the Inland Revenue Authority of

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Singapore (IRAS) adopts a framework that fosters a taxpayer-centred environment. The IRAS developed the Integrated Compliance and Service Framework (ICSF) (Figure 2.11) as a guide to formulate strategies towards excellent tax service delivery and tax compliance management. In this case, the "*belief that taxpayers are generally compliant*" in an environment is fostered to ease taxpayers in complying with tax obligations. However, it would be challenging for taxpayers who do not comply, which encourages voluntary tax compliance and builds citizens' confidence in their tax system (IRAS, website). This compliance model ensures a fair and sustainable tax system for the country with its effective and efficient tax administration, where all the taxpayers contribute their fair share of tax.
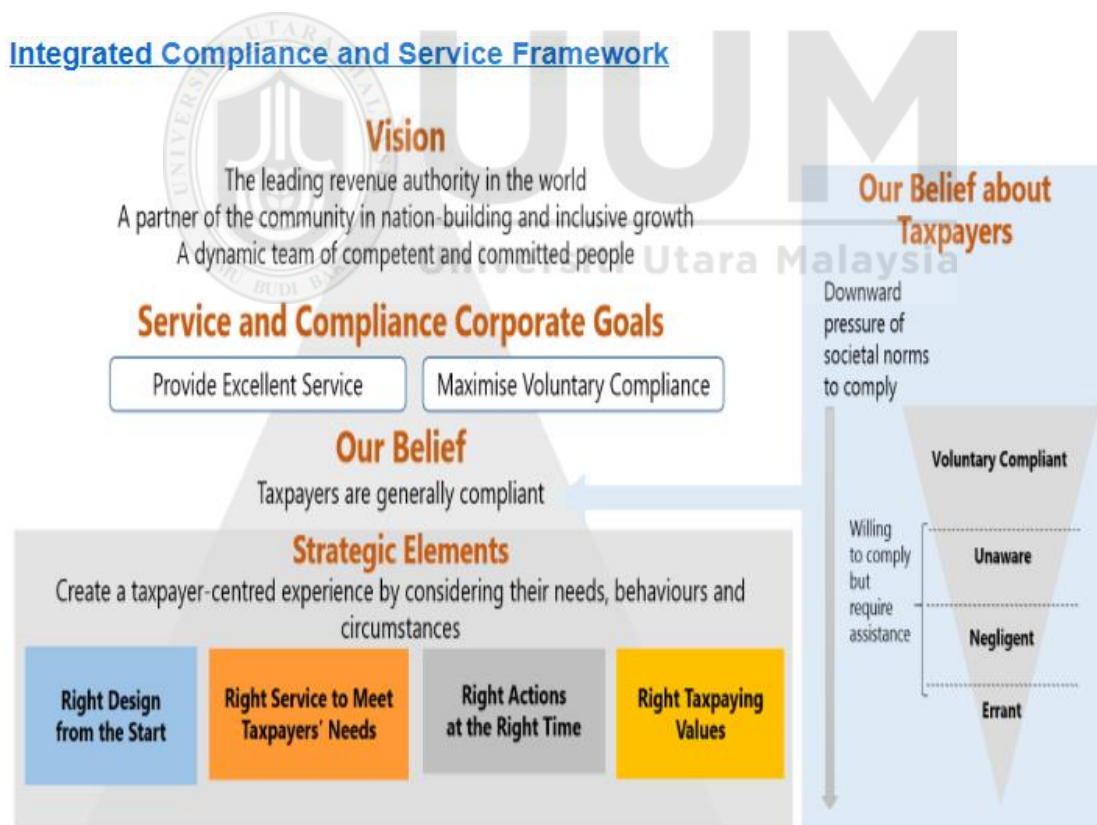
Figure 2.11:
IRAS Integrated Tax Compliance and Service Model.
Source: Adapted from IRAS Official Website (www.iras.gov.sg)

The IRAS fosters an environment, in which strategic elements create a taxpayer-oriented experience by considering the taxpayer's needs, behaviours, and circumstances. These factors are anchored by the elements of Right Design from the Start, Right Service to Meet Taxpayers' Needs, Right Actions at the Right Time, and Right Taxpaying Values, which are collectively referred to as "The Four Rights" (Figure 2.11). The "*upside down*" compliance pyramid on the left of Figure 2.11 presents a "*downward pressure of societal norms to comply*", which is in contrast to the compliance model suggested by OECD (Figure 2.10). This model features the beliefs that the majority of taxpayers voluntarily comply with the tax laws. Subsequently, the required proactive provisions of necessary platforms and services allow voluntary compliance among the taxpayers. In this case, some unaware taxpayers require assistance for compliance, while some negligent taxpayers may not pay due attention to tax obligations, and a minority of errant taxpayers may intentionally cheat or evade tax.
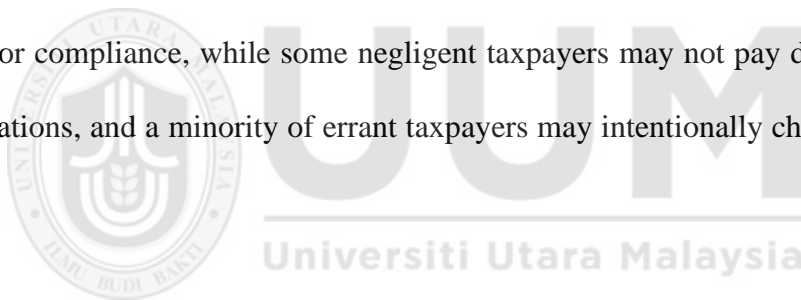
In contrast to the BISEP model (Figure 2.10) that pressures the non-compliant through the full force of law, the compliance model by IRAS (Figure 2.11) develops the societal pressure towards compliance. This condition indicates that IRAS provides the basis for performing strict actions on non-complying taxpayers, given that all the necessary and necessities of tax complying behaviour are managed with all the provisions and facilitation by IRAS through strategic element implementations. This action is in line with Branham (2009), who mentioned that guiding people through their actions and assisting them would discourage noncompliance, while rewarding cooperation is the most effective method of influencing behaviour. Furthermore, the commanding model would be ineffective and inefficient in the continuous effort of changing the attitude

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and value behaviours of individual taxpayers and social norms. In this case, punishment threats would only be disregarded in the long term when the punishments are minor (Branham, 2009). The effectiveness and efficiencies of e-government services depend on the ease of use and system usefulness evaluation by the public, considering that the user-friendly system, easy access, usefulness, flexibility, benefits, value, and clear e-government system interaction would satisfy the users of the governmental electronic services (Bélanger & Carter, 2008).
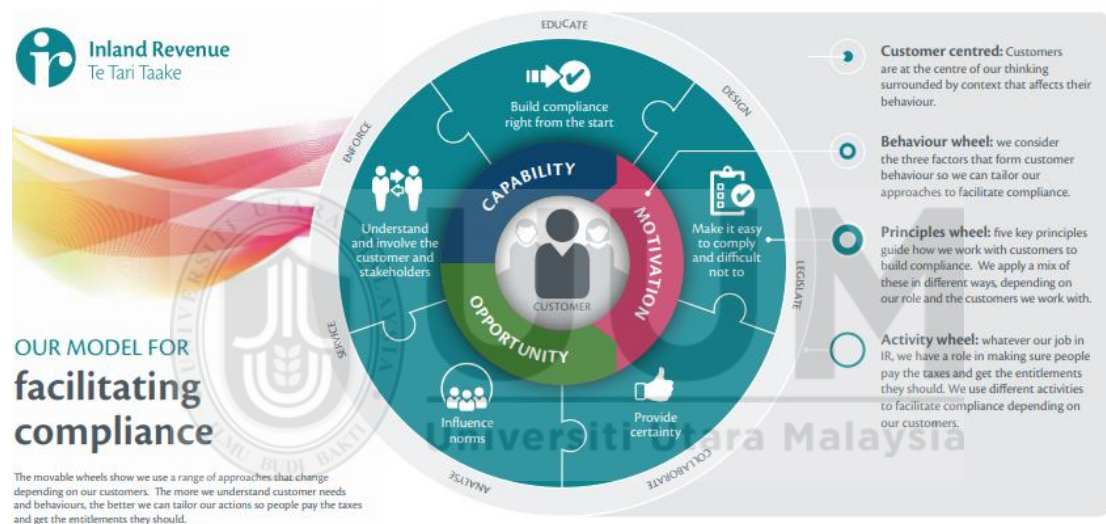
Figure 2.12:
New Zealand Inland Revenue's Tax Compliance Model.
Source: Inland Revenue - Annual Report 2018 (NZIR, 2019)

In contrast to the existing tax compliance models, which are triangular, New Zealand Inland Revenue introduced a circular wheel-shaped model in 2017 (Figure 2.12). The transformation was for a more customer-centred facilitating compliance with a moveable range of approach wheel, which changed according to the taxpayer's behaviours (NZIR, 2017). Through the understanding of taxpayer's behaviour, approaches were tailored to facilitate compliance among New Zealanders with further simplicity and certainty for taxpayers (NZIR, 2017). The proactive approach of

assisting taxpayers to file and pay on time through the correct methods in the beginning would prevent tax dues and penalties (NZIR, 2019). Notably, the use of the correct method from the beginning is more recommended compared to correcting the taxpayers' mistakes. This aspect indicates that proactive and preventive actions could enhance voluntary tax compliance when activities and campaigns focus on assisting taxpayers to ease their tax and social obligations.

As a matured democratic country, Malaysia should design tax systems to induce more voluntary tax compliance. Mature democracies have a higher dependence on the sources of income, such as voluntary self-assessment personal income tax compared to repressive governments (Feld & Frey, 2002; Jaming, Karoui, & Spektor, 2016; Profeta, Puglisi, & Scabrosetti, 2009). Based on the tax structure analysis in democratic and non-democratic countries including Malaysia, Kenny and Winer (2006) recorded that stronger protection of rights and liberties resulted in intensive use of personal income tax, which was more complicated and dependent on voluntary compliance instead of being attributed to redistributive reasons. Profeta et al. (2009) stated that repressive actions would reduce the taxpayer's willingness to cooperate in tax collections. Moreover, Loo et al. (2010) highlighted that although high tax ethics are present in Malaysia, individual's tax compliance behaviour is influenced mainly by tax knowledge, given that the majority of individual taxpayers are open to receive tax knowledge. Hence, voluntary tax compliance could be induced with the facilitation of taxpayer-oriented services, consistent dissemination of tax knowledge, and assistance towards complying with tax laws.

2.6.2 Voluntary Tax Compliance Intention and its Antecedents

Many types of taxpayers may wish to voluntarily comply with tax laws. Due to tax complexity and extreme hassle in voluntarily tax compliance, some taxpayers may simply submit their income tax form for the sake of complying without effort to rectify their mistakes in submissions despite their awareness about it. Meanwhile, some taxpayers do not attempt to comply with tax laws and evade fraud and schemes. The opportunity for tax compliance is present in the taxpayers' influence on compliance decisions. These "*cognitive misers*" are defined by OECD (2010b) as the taxpayers' decision making based on perceptions using little or limited information or knowledge without the reference to relevant information in decision making. The taxpayers' attitude towards the effort of being voluntarily compliant would take place when voluntary compliance is perceived as easy.

Based on past studies, the definitions of voluntary tax compliance are diverse. Voluntary tax compliance is defined as the ability and willingness of taxpayers to comply with tax laws, which are determined by ethics, legal environment, and other situational factors (Song & Yarbrough, 1978). Voluntary tax compliance is defined as the tax administrators' reliance on taxpayers' cooperation to make the proper filing, assess the correct amount of taxes, and pay taxes due on time (Manhire, 2015). However, most of the voluntary tax compliance could be described as the timely filing of tax declarations (Alabede et al., 2011; Silvani & Baer, 1997), honesty (Kira, 2017), and timely payment of taxes without enforcement (Mas'ud et al., 2014; Silvani & Baer, 1997). In this study, the voluntary tax compliance intention was defined as the willingness to comply with tax laws by submitting an income tax return form via e-filing system before the due date.

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In Malaysia, not declaring taxable income by submitting a prescribed income tax return form on time is a criminal offence under Section 112 of the ITA 1967. The inclusion of predicate offence under Section 112 of ITA 1967 into the Second Schedule of the Anti-Money Laundering, Anti-Terrorism Financing and Proceeds of Unlawful Activities Act 2001 (AMLATFPUAA 2001) proved that tax evaders who do not voluntarily comply within the stipulated time are regarded as a serious offence. Hence, the deterrence actions through tax audits and investigations were actively performed by IRBM to identify the tax offenders. Based on a survey by Palil et al. (2013) on 1,073 respondents who comprised individual taxpayers, it was found that the probability for audit, tax rates, perception of government spending, and tax authority role had a significant impact on tax compliance. Palil et al. (2013) study offered the indicator that tax administrators' activities, which could be deterrence or facilitation of services, had an impact on taxpayers' decisions.

Ryan and Deci (2000) stated that being voluntarily motivated may not accurately represent an intrinsically motivated compliant taxpayer. Braithwaite (2003) described voluntary tax compliance to commitment as a morally obliged taxpayer who perceives fairness in the tax system or capitulation towards the positive acceptance of legitimate tax authorities' power to act in a supportive manner. Similar to voluntary tax compliance motivation postures by Braithwaite (2003), taxpayers are voluntarily compliant with the tax laws and professionalism of the tax authorities (Gangl, Hofmann, De Groot et al., 2015). The motivation to voluntarily pay taxes is based on positive reciprocity (Gangl, Hofmann, & Kirchler, 2015) without any enforcement when tax laws are respected and tax authorities are believed to be the service providers in assisting taxpayers to comply with the tax laws (Gangl, Hofmann, De Groot, et al.,

2015). Thus, educating and imparting tax knowledge to taxpayers are vital, given that the provision of appropriate and relevant strategies, including effective education may significantly improve voluntary tax compliance (Loo, Evans, et al., 2010). Similarly, Bhutta, Tara, Rasheed, and Khan (2019) emphasised the need for tax administrators to change taxpayers' attitudes towards voluntary tax compliance via seminars or advertisements on tax payment importance, economic benefits, and tax filing methods to increase the ease of filing income tax returns.

Tax audits, tax investigations, and punishments could be used to deter tax evasions. However, it is deemed that these actions may not be adequate and could potentially reduce the number of voluntary tax compliance, given that many taxpayers are compliant without being forced to become one (Pickhardt & Prinz, 2014). Therefore, it was highlighted by the authors that measures including increased service-oriented tax administrators, simpler tax codes, and tax administrator's positive attitudes towards taxpayers appear to be advantageous and could encourage taxpayers to file income tax forms voluntarily. Nevertheless, specific actions of audits and punishments may be required as deterrence. The taxpayer's confidence in tax administrators should be prioritised to uphold the trust by taxpayers, considering that the restoration of taxpayer's distrust may be extremely costly and challenging (Pickhardt & Prinz, 2014). Thus, Bhutta, Tara, Rasheed, and Khan (2019) highlighted that the aim of increased voluntary tax compliance among individual taxpayers could not be achieved with auditing and penalties alone. Additionally, Augustine and Rufus (2019) proposed that voluntary tax compliance should be encouraged by tax administrators through the mechanism of seamless income tax returns.

Tax administrators including IRBM opt for tax amnesties in motivating voluntary compliance decisions among taxpayers (IRBM, 2016b). Tax amnesty is employed in countries to encourage voluntary tax compliance among taxpayers, although this action has a minor impact on government revenues in a short term or long term (Alm, Martinez-Vazquez, & Wallace, 2009). Furthermore, Sudarma and Darmayasa (2017) recorded that tax amnesty was not effective in inducing voluntary tax compliance, given that the majority complied voluntarily to avoid an audit. Therefore, the lopsided effect might increase tax filings, although this case did not occur on the actual tax dues that should be collected by tax administrators. Nevertheless, tax payment options may provide ease for taxpayers to pay the actual amount of taxes while increasing the voluntary compliance rate. In contrast, tax amnesties in Malaysia are subject to late submission or tax evasion penalties under Section 112 or Section 113 ITA 1967.

As discussed earlier, various factors could encourage voluntary tax compliance among individuals. The facilitation of systems and technologies including appropriate support during campaigns and workshops could instil taxpayer's confidence with a positive attitude towards filing income tax forms via e-filing system during income tax filing months. However, the availability of facilities would not be sufficient for instilling taxpayers' behaviour towards voluntarily filing taxes. Psychological, economic behavioural, and other factors such as knowledge, referents, and financial ability may need to be re-examined as environment and time changes.

2.6.2.1 Attitude and Voluntary Tax Compliance Intention

Many avenues could be applied to ease taxpayers in complying voluntarily, which include plain and non-legal language communications, easily accessible websites, easy tax forms, ease of relevant personal information accessibility, and simplification of the tax system with lesser rules and more automatic tax (OECD, 2010b). According to OECD (2010b), a regional revenue body in Sweden distributed information letters to taxpayers prior to their tax filing date to simplify compliance. In addition, it would be normal for any taxpayers to encounter mistakes in their tax reporting. Moreover, the understanding of the nature of mistakes could result in sympathetic attention towards providing a redesigned and refined work process of educating and guiding taxpayers (OECD, 2010b). These avenues may also assist in the taxpayers' attitude to comply voluntarily. Further research works to explore taxpayers' complex attitudes are required for the understanding of tax compliance intention, where the majority of taxpayers are perceived to have high intention to voluntarily comply with tax laws (Kirchler et al., 2008; Mohdali et al., 2014).

According to the Theory of Planned Behaviour (TPB), attitude denotes the individual's attitude towards participation in a specific behaviour (Ajzen, 1991). This theory becomes fundamental to the belief that attitude is a function of individuals' beliefs regarding the outcome of achievements through engagement in a particular behaviour and the values expected from the outcomes (Bobek, Hatfield, & Wentzel, 2007). In the area of technology acceptance, attitude refers to the tendency to consistently respond favourably or unfavourably towards an object that may be affected by information and experience (Abdul Aziz & Md Idris, 2016).

In the study on the intention to employ an e-filing system by tax preparers using UTAUT model, Abdul Aziz and Md Idris (2016) recorded that attitude was not significant in e-filing system usage intention. Although this study was in line with the study by Venkatesh et al. (2003), it was not in an agreement with the previous behavioural studies by Davis (1989), Taylor and Todd (1995b), and Thompson et al. (1991), in which the researchers found attitude to be significantly related to behavioural intention. Therefore, it was suggested that the attitude construct was removed from the structural model, given that attitude was covered by the constructs of perceived usefulness and perceived ease of use.

Many other tax studies recorded the significance of attitude towards intention. Chu and Wu (2004) demonstrated the significant relationship between attitude and intention in the survey of taxpayers' behaviour towards the electronic tax filing system in Taiwan. The study by Chu and Wu (2005) presented similar results, in which taxpayers' attitudes had a significant influence on their intention towards the electronic tax filing system. Comparably, the study of online tax filing by Lu and Ting (2013) found that attitude had a significant influence on online tax filing intention among 422 valid respondents in Taiwan, leading to a positive significant effect on tax filing behaviour. Furthermore, the meta-analysis of tax compliance studies by Marandu et al. (2015) demonstrated the finding of majority studies on the positive influence of attitude on tax compliance behaviour. Several other past studies recorded the significant relationship between attitude and intention, such as the studies of transactional E-Government System adoption (Rana, Dwivedi, Lal, & Williams, 2015), web 2.0 technologies usage among teachers (Sadaf, Newby, & Ertmer, 2012), e-money mobile usage intention (Khatimah

& Halim, 2016), and family takaful scheme participation intention (Md Husin & Ab Rahman, 2016). Overall, the results indicated consistencies in studies.

The studies in recent years demonstrated the significance of attitude on intention (Mathai, McGill, & Toohey, 2020; Ndlovu, Ramdhany, Spangenberg, & Govender, 2020; Sadaf & Gezer, 2020) and tax-related studies (Al-Zaqeba & Al-Rashdan, 2020b, 2020a; Kiconco, Gwokyalya, Sserwanga, & Balunywa, 2019; Sanubari, 2020). Kiconco et al. (2019) performed a cross-sectional survey on 384 different categories of small business enterprises in Uganda. Subsequently, attitude showed significant results on tax compliance behavioural intention. Notably, Kiconco et al. (2019) recorded a negative attitude towards the intentions to comply with tax regulations and laws citing corruption as their main findings, which led to the reluctance to pay taxes. Sanubari's (2020) study of 301 individual taxpayers of PT Pembangkitan Jawa Bali obtained the significant result of attitude on intention to comply, which was analysed using SmartPLS. Al-Zaqeba and Al-Rashdan (2020b, 2020a) showed similar results to Kiconco et al. (2019) and Sanubari (2020). Hence, the past significant studies provided a strong basis that attitude plays an important role in voluntary tax compliance behavioural intention.

2.6.2.2 Subjective Norm and Voluntary Tax Compliance Intention

Based on TRA, the original subjective norm construct refers to social pressure influence on individuals towards behavioural intention. However, various studies employed TRA, while TPB utilised subjective norm as a unidimensional construct. As such, numerous studies recorded that subjective norm could be relevantly decomposed into several groups of multidimensional constructs, including friends, colleagues, and family

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members (Rhodes & Courneya, 2003), superior influence and peer influence (Ho, Tsai, & Day, 2011; Taylor & Todd, 1995b, 1995c), primary and seconder influence (Bidin & Md Idris, 2009), mass media and word of mouth (Md Husin et al., 2016), and neighbours and spouse (Shimp & Kavas, 1984). The decomposition of subjection norm into superior influence and peer influence by Ho et al. (2011) and Taylor and Todd (1995b, 1995c) were found to justify the behaviour in organisational settings. In this case, the peers could be opposed to a specific behaviour, while the superiors could tend to be encouragingly influential towards the behaviour. On the contrary, the segregation of superior influences from the peers could contribute to IS acceptance in organisational settings, although it might not produce significant explanatory power impact on personal usage context (Bhattacherjee, 2000). The decomposition of subjective norm into several groups including family, friends, superiors, and colleagues may be relevant. However, different scenarios are present in the individual's decision-making context.

Based on 74 case studies conducted on individual taxpayers, Loo, Mckerchar, and Hansford (2010) found that income tax forms were confusing and complicated, with instructions and guidelines that were extremely brief and inadequately used as guidelines for filing income tax return forms. The individual taxpayers may opt for the understanding of others and other means of referents due to the lack of information provided. In the individual decision-making context, individuals including friends, colleagues, and family members may be influential to an individual's preference. However, superiors may not be influential, considering that individuals may opt to not discuss with their superiors regarding personal matters. Damayanti (2012) highlighted that the pressure from other taxpayers, including support from colleagues and family members towards voluntary tax compliance would increase the taxpayer's intention to

comply. This study demonstrated that many individual taxpayers would discuss with close friends, colleagues, and family members on tax matters.

Given this study emphasis on the individual's voluntary tax compliance behaviour, the element of peer influence and mass media referent would be more relevant. To illustrate this point, individual taxpayers would refer to closest individuals or mass media for information and confirmation. Given that individual taxpayers with employment income tend to spend most of their time in the office, the tendency to engage in private discussions would influence decision makings.

The previous study by Bobek and Hatfiel (2003) recorded that subjective norm had a positive significant impact on tax compliance intention. In the comparison of the societal norm of tax compliance through hypothetical compliance scenario between three countries namely Australia, Singapore, and the United States, it was concluded by Bobek, Roberts, and Sweeney (2007) that differences were present in compliance rates and social norm in all three countries, where social norm had a significant influence on the explanation of tax compliance intention and the factors impacting higher tax compliance rates compared to the strict economic models. In their study of online tax filing, Lu and Ting (2013) found that subjective norm had a significant influence on online tax filing intention among 422 valid respondents in Taiwan, which created a positive significant effect on tax filing behaviour. Moreover, based on the meta-analysis of tax compliance studies by Marandu et al. (2015), the majority of studies found that subjective norm had a positive influence on tax compliance. Similarly, the study by Maharani, Subroto, and Ghofar (2017) on 120 of personal taxpayers in KPP Pratama Gresik Utara, Indonesia found that subjective norm had a significant positive influence

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on intention. A more recent psychological factors study employed the extended TPB model to understand the tax compliance behaviour of individual taxpayers in Pakistan by Bhutta et al. (2019). As a result, the subjective norm on the intention with significant value ($\rho < .05$, $\beta = .0866$) was achieved. In addition, the study by Al-Zaqeba and Al-Rashdan (2020) obtained a positive significant result among 678 high-income individual taxpayers in Jordan. Generally, with the annual tax laws changes based on each government's decision, individual taxpayers may still be required to rely on family members, friends, colleagues, and peers for any tax updates and extra information.

Despite the insignificance of subjective norm towards intention shown in past studies (Lesmana, Panjaitan, & Maimunah, 2018; Marthadinasyah, Meutia, Mukhtaruddin, & Saputra, 2014; Sanubari, 2020; Tarmidi & Waluyo, 2017; Wu & Chen, 2005), many other past studies presented significant relationships of subjective norm on intentions (Al-Zaqeba & Al-Rashdan, 2020; Alryalat, Rana, & Dwivedi, 2015; Chu & Wu, 2005; Lu & Ting, 2013; Rana, Dwivedi, & Lal, 2015; Saad, 2009). The mixed results might indicate the changes in the preferences of taxpayers towards the decision-making process. The trend could also change in line with the changes in the latest cultural norm. Hence, the need to understand current trends would be advantageous academically and practically.

2.6.2.3 Perceived Behavioural Control and Voluntary Tax Compliance Intention

Whether the taxpayers could use the compliance tool, the facilities provided by the tax administrators and the ability to pay are suggested to impact compliance behaviour. In this study, the control believes including the taxpayer's self-efficacy to use electronic

compliance tools such as e-filing system, the facilitation conditions of the compliance tool, and the taxpayer's ability to pay were recorded as the antecedents of perceived behavioural control. According to Ajzen (1991), perceived behavioural control represents the amount of control perceived by individuals to engage in a particular behaviour. In addition, Ajzen (2002) highlighted that perceived behavioural control with carefully selected measures should incorporate both self-efficacy and controllability items to obtain higher internal consistencies. Bobek and Hatfield (2003) argued that perceived behavioural control does not reflect the ease or difficulties in taxpayer's belief to comply. However, it reflects the level of control an individual believes in performing the specific behaviour. In this case, individual taxpayers may employ all the means to comply with tax laws voluntarily, although they may need to reconsider their financial commitments and the ability to pay in a timely manner without being penalised.

Several tax-related studies presented a significant relationship between perceived behavioural control and intention (Alryalat et al., 2015; Marthadinasyah et al., 2014; Rana, Dwivedi, & Lal, 2015; Wu & Chen, 2005). In Lu and Ting's (2013) study of online tax filing, it was found that perceived behavioural control had a significant influence on online tax filing intention among 422 valid respondents in Taiwan. This condition created a positive significant effect on tax filing behaviour. On the other hand, Smart (2013) utilised items including income subject to third-party reporting, presence of opportunities, and financial distress experience as unidimensional perceived behavioural control measurements. Subsequently, it was recorded that perceived behavioural control was significant in the tax compliance intention. In addition, based on the meta-analysis of tax compliance studies by Marandu et al. (2015), the majority

of studies found that the perceived behavioural control had a positive influence on the intention towards tax compliance. Similarly, Lesmana, Panjaitan, and Maimunah (2018) found that perceived behavioural control had a positive impact on individual taxpayers intention in Kota Palembang, Indonesia. Notably, the recent taxation studies showed similar significant results (Al-Zaqeba & Al-Rashdan, 2020b, 2020a; Bhutta et al., 2019). Bhutta et al. (2019), who recorded the significance of perceived behavioural control among individual taxpayers in Pakistan towards compliance intention, highlighted that the significance of societal widespread acceptability in terms of tax compliance would affect their compliance decisions. Meanwhile, two studies performed on 678 and 383 individual respondents in Jordan obtained positively significant results of perceived behavioural control on intention (Al-Zaqeba & Al-Rashdan, 2020a & 2020b).

In the experimental study by Trivedi, Shehata, and Mestelman (2005) on tax compliance using TPB, it was found that perceived behaviour measured by economic variables, such as penalties, third-party reporting, and audit rates, had no significant impact compared to psychological factors. The contradicting findings by Trivedi et al. (2005) were attributed to the economic variables used to measure perceived behavioural control. Furthermore, past studies obtained insignificant results for the relationship between perceived behavioural control on intention (Dwi & Goodwin, 2013; Saad, 2009; Tarmidi & Waluyo, 2017). The mixed results demonstrated the outcome obtained in past studies based on the measurements used for perceived behavioural control. Most of the past studies, particularly on taxation, have proven the significance of perceived behavioural control on taxpayers' voluntary tax compliance intention for psychological behaviour studies.

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2.6.3 Attitude and its Decompositions

Individual taxpayers may display a different form of attitude depending on the situation and criterion, where each criterion may present different weights through each individual taxpayer. Based on the TRA model, attitude is a vital variable that directly predicts behavioural intention and indirectly predicts behaviour, which is then categorised into the attitude towards a particular behaviour and attitude towards the object (Fishbein & Ajzen, 1975). Attitude towards a particular behaviour refers to the degree of perceived consequences in performing the specific behaviour and the individual's subjective evaluation of the consequences. Meanwhile, attitude towards an object refers to the degree of individuals' belief towards that object and the implicit evaluation of their beliefs (Fishbein & Ajzen, 1975). According to Ajzen (1991), an individual taxpayer's attitude towards the tax system may predict their tax compliance behaviour. Past studies demonstrated that attitude is a part of tax compliance behavioural prediction, where attitude may be favourable or unfavourable towards an object, function, event or person.

Based on the TPB theory, regardless of being affective or vice versa, attitudes are based on beliefs that are readily accessible about the possible consequences of a behaviour. Ajzen and Sheikh (2013) emphasised that the significant result of the anticipated effect may be due to the assessment of the method of the concerned variable. It was further argued that rather than the additional effect measurement, the improvement in predicting intentions is based on the additional measurement addressing the alternative to behaviour.

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With the reference to the Theory of Reasoned Action (TRA) and Theory of Planned Behaviour (TPB), Taylor and Todd (1995c, 1995b) stated that the belief structures in the TRA and TPB model do not reflect the actual influence of each attitude, given that the structures are combined into a one-dimensional construct. The decomposition of attitude based on diffusion innovation studies by (Rogers, 1983) was proposed by Taylor and Todd (1995c, 1995b) to improve the understanding and identify the factors that may affect attitude. The main factors of adopting any innovation are dependent on the perceptions of relative advantage, complexity, and compatibility. Therefore, the attitude constructs of the DTPB model consist of three dimensions, namely Perceived Usefulness (Relative Advantage), Ease of Use (Complexity), and Compatibility.

According to Song and Yarbrough (1978), taxpayers' attitude is highly important in voluntary tax compliance behaviours. Taxpayers with a higher level of moral reasoning would exhibit favourable attitudes towards tax compliance (Chan, Troutman, & O'Bryan, 2000). The mixed-method study by Loo et al. (2009) found that the attitude towards paying taxes only affected employment-incomed and wage-earning taxpayers. Tax administrators are required for the understanding of factors that motivates towards influencing taxpayers attitude (James Alm, 2013; OECD, 2010b), given that taxpayers are not always motivated by economics factors of tax evasion, but they are also motivated by other factors including social norm, morality, fairness, and altruism (James Alm, 2013). Generally, Malaysians are positive towards voluntary tax compliance attitude (Mohdali et al., 2014).

In view of the current trend, the use of technologies such as e-filing system to file income tax forms online has gained popularity compared to manual forms. The theories

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of technology acceptance including TAM and UTAUT model have been adopted to study the intention of using taxpayers to file the income tax form electronically. In contrast to the UTAUT model, the variables including attitude have been tested in the TAM model in the studies of technology acceptance. However, Al-Thunibat et al. (2011) argued that attitude towards the intention to use should be subsequently used in TAM researches, in which the perceived usefulness and perceived ease of use are the antecedents of attitude. It was also stated that perceived ease of use is a high predictor of attitude towards the intention to use (Al-Thunibat et al., 2011).

In prior studies of technology acceptance, the role of attitude in TAM was not included, following the findings that attitude did not play a significant role in mediating perceived usefulness and perceived ease of use towards behavioural intention (Adams, Nelson, & Todd, 1992; Chau, 1996; Davis, 1989; Davis et al., 1989; Davis & Venkatesh, 1996; Lu & Gustafson, 1994). Furthermore, Szajna (1996) who excluded attitude construct from their study recorded that the revised TAM consistently displayed a good performance in the prediction of intentions. In contrast to the C-TAM-TPB (Taylor & Todd, 1995c), in which attitude was indicated as the moderating variable, the construct of attitude was excluded from most of the other technology acceptance models, such as TAM2 (Venkatesh & Davis, 2000), TAM3 (Venkatesh & Bala, 2008), UTAUT (Venkatesh, Morris, et al., 2003), and UTAUT2 (Venkatesh, Thong et al., 2012). Notably, the use of these models was more popular.

In the study of e-book purchase factors in Japan, Koeder, Mohammed, and Sugai (2011) found that decomposed attitude was the most significant factor of e-book purchase behaviour. Similar to Koeder et al. (2011), many other researchers specified attitude

into many other factors, such as relative advantage (Dos Santos & Okazaki, 2013; Khatimah & Halim, 2016; Teo & Pok, 2003), perceived ease of use (Fu et al., 2006; Hung et al., 2006, 2011), perceived usefulness (Hastuti et al., 2014; Hsu & Chiu, 2004; Ramayah, Rouibah, Gopi, & Rangel, 2009), compatibility (Fu et al., 2006; Hsieh, 2014; Shih & Fang, 2004), and complexity (Shih & Fang, 2004). Although past studies have proven that attitude has a significant direct relationship with behavioural intention (Davis et al., 1989; Mathieson, 1991; Shih & Fang, 2004; Taylor & Todd, 1995c), other studies demonstrated the significant crossover relationships from normative structure and attitude (Oliver & Bearden, 1985; Ryan, 1982; Taylor & Todd, 1995b). This finding presented the basis where attitude is a multidimensional construct, which may provide better predictive power. Hence, the understanding of taxpayer's attitude towards voluntary tax compliance remains feasible for examination as self-assessment system era, with the facilitation of e-filing system taken place for more than 10 years.
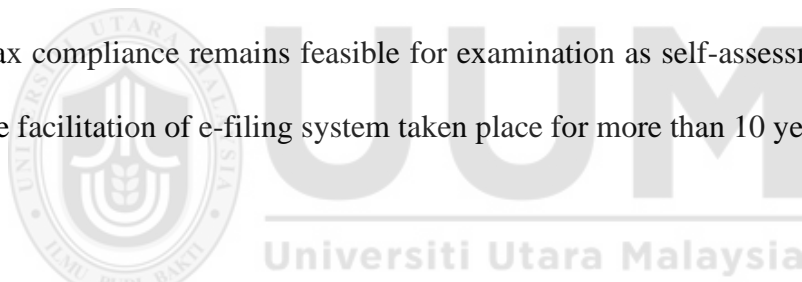
2.6.3.1 General tax filing knowledge and Attitude

Individual taxpayers' tax knowledge is vital for a successful SAS implementation (Mat Udin, 2015). Although numerous past studies tested the tax knowledge of taxpayers, mixed and inconsistent results were created with different definitions of tax knowledge (Loo & Ho, 2005; Loo et al., 2009; Palil, 2005, 2010; Saad, 2014). Several studies demonstrated the positive influence of tax knowledge on taxpayers attitudes towards voluntary tax compliance (Eriksen & Fallan, 1996; Kasipillai et al., 2003; Mat Udin & Abdul Wahab, 2013; Palil, 2010; Saad, 2014). Meanwhile, Che Azmi et al. (2016) and Tan and Chin-Fatt (2000) recorded contradicting results, in which tax knowledge had no significant direct influence on voluntary tax compliance. The mixed results garnered

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continuous interest among researchers (Mat Udin & Abdul Wahab, 2013). Besides, taxpayer's perception and attitude influenced their compliance behaviour (Che Azmi et al., 2016).

In the attempt to determine the connection of specific tax knowledge and attitudes towards tax compliance by completing tax returns, Lewis (1982) argued that the lack of tax regulations and knowledge created negative economic impacts. Through the survey experiments, Alm (1991) highlighted the incomparable experiments focusing on the specific tax knowledge that had better influences on the attitudes towards tax compliance. Therefore, Mohd Hanefah (1996) suggested that tax knowledge should be a separate variable in the tax compliance model, considering that individuals with an understanding of tax laws and systems, including tax matters would lead to compliance compared to the attributes. The researcher also highlighted that tax complexities, such as record keeping, overloaded tax law information, and uncertainty are among the factors that hinder voluntary tax compliances. Despite the same education level, differences were present in the level of knowledge (Palil, 2010). The 2,267 participants in Saad's (2014) study were selected from different regions in New Zealand. Subsequently, it was found that the taxpayers possessed inadequate technical knowledge of the income tax system. This feature led to the perception that it was complex, which motivated noncompliance behaviour among the taxpayers. In the past, Choong and Wong (2011) demonstrated that the tax knowledge of SAS was not ideal among petty traders in Malaysia, while the hawkers were fearful of tax audit citing mainly due to the lack of formal tax education. It was indicated in past studies that most taxpayers are not well-versed with the tax laws. Besides the knowledge of electronic

filing requirements, these studies were also mainly focused on the technicality of the tax laws instead of basic tax filing requirements.

A previous study by Eriksen and Fallan (1996) recorded that taxpayers were compliant and respectful of the tax system when they gained a reasonable understanding of tax laws. It was indicated that tax knowledge had a significant influence on taxpayers' attitudes. Similar results were obtained by Fallan (1999) regarding the significance of tax knowledge on attitudes. Notably, a better understanding of tax knowledge leads to a positive outcome of taxpayers attitudes, which enhances the compliance rate (Chan, Troutman, & O'Bryan, 2000; Song & Yarbrough, 1978). Previous research by McLeod, Pippin, and Mason (2009) found that tax knowledge and experience were not separate factors, with the limited variables of knowledge in the pilot sample being cited as the possible cause. It was suggested that broader and larger samples would separate experience and expertise constructs into two factors. According to Choong and Wong (2011), individual taxpayers must be equipped with basic tax knowledge to understand the mechanism of SAS. In the SAS era, the tax compliance responsibility was transferred from tax administrators to taxpayers (Borrego, Lopes, & Ferreira, 2016). In this study, tax compliance was identified as the submission of income tax forms through the use of e-filing. On the other hand, Chan, Moorthy, and Choo's (2017) study on the behavioural perceptions of tax evasion among taxpayers recorded that tax knowledge was a vital tax system characteristic that influenced taxpayers' attitudes in Malaysia.

Past results have demonstrated that tax knowledge has a significant influence on taxpayer's attitudes. The survey by Kirchler (2007) proved a positive relationship between tax knowledge and favourable attitudes in taxation. Meanwhile, Lobont,

Moldovan, and Vladusel's (2013) survey on students' attitudes towards taxation recorded that tax knowledge played an important role in their attitudes. Therefore, the absence of appropriate tax knowledge could result in unintentional noncompliance among taxpayers (Loo et al., 2010). In addition, Borrego, Lopes, and Ferreira (2016) stated that to achieve compliance, tax knowledge would be positively advantageous in managing tax complexity and negatively advantageous for noncompliant or less compliant intention.

Previous studies examined tax knowledge impact on tax compliance behaviour among taxpayers (Borrego et al., 2016; Chan et al., 2000; Choong & Wong, 2011; Eriksen & Fallan, 1996; Fallan, 1999; Fauziati, Minovia, Muslim, & Nasrah, 2016; Loo, McKerchar, & Hansford, 2010; Mohd Tallaha et al., 2014; Palil & Rusyidi, 2013; Tan & Chin-Fatt, 2000). However, the literature works showed mixed results of tax knowledge in relation to tax compliance. In the mixed-method study on Malaysian individual taxpayers, Loo et al. (2009) found that tax knowledge was a positive and the most significant factor of individual taxpayers compliance behaviour. Meanwhile, the studies by other researchers found that tax knowledge was positively significant towards tax compliance (Loo et al., 2010). In contrast, Loo and Ho (2005) and Tan and Chin-Fatt (2000) proved that tax knowledge was negatively significant towards tax compliance. On the other hand, Che Azmi et al. (2016) found that there was no direct relationship towards voluntary tax compliance. The mixed result offered a basis for more studies on tax knowledge towards tax compliance.

In Mansor, Saad, and Ibrahim's (2004) exploratory study of SMEs and tax agents in Penang, Kedah, and Perlis, the government was urged to further improvise the tax

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education, particularly the tax laws under SAS among taxpayers in the management of tax affairs while reducing the reliance on tax preparers. As a result, compliance costs would be reduced. Therefore, heavy reliance on tax preparers may not provide the best solution towards voluntary tax compliance. The failure of filing income tax returns on a timely basis may be caused by incompetent tax preparers or some cases when tax preparers may take the taxpayer's long-term trust for granted. In research on tax knowledge on tax compliance of SMEs, it was found that tax knowledge had no significant impact on tax compliance (Fauziati et al., 2016). This finding could be attributed to the ability of SMEs to engage tax preparers in filing their tax returns. Thus, the taxpayers who were liable for their own tax positions should possess basic tax filing knowledge regarding the due dates.

In the era of SAS and prior to e-filing system implementation, taxpayers were required to compute their own tax liabilities based on the details of income and deductions before submitting the form to IRBM. This action required the taxpayers to have the basic technicality of tax knowledge, which included taxable income, allowable deductions, tax rates, and computational steps. Aryati Juliana et al. (2005) highlighted that knowledge to e-file is one of the barriers to perform e-filing. Although it has been demonstrated that tax knowledge is influential on tax compliance, it was argued that there was no concrete evidence of the tax knowledge relationship on e-filing usage. Furthermore, tax knowledge was not significant in the e-filing usage, in which direct questions were suggested to be used in future research works (Mohd Tallaha et al., 2014). With the availability of an e-filing system, the taxpayers are only required to enter their details of income and deductions, given that the e-filing system will compute the tax liabilities automatically. However, tax knowledge is the primary factor affecting

individual taxpayer's compliance (Al-Zaqeba, Abdul Hamid, & Muhammad, 2018). Therefore, disseminating tax knowledge by educating taxpayers on the tax requirements and their responsibilities with the assistance of information availability including information about benefits and values of tax payment is vital in motivating taxpayers' attitude to comply voluntarily (Hauptman, Gürarda, & Korez-Vide, 2015; Saeed & Shah, 2011; Vossler, McKee, & Jones, 2011). General tax filing knowledge remains the main concern among researchers in addressing individual taxpayers' behaviour in the era of SAS (Kaur, 2016; Mat Udin, 2018; Oladipupo & Obazee, 2016).

2.6.3.2 Perceived Usefulness and Attitude

In performing a behaviour, the relative advantage or perceived usefulness significantly and positively influenced attitude, which was in line with TRA and TPB models (Taylor & Todd, 1995c). Similarly, Taylor and Todd (1995b) found that perceived usefulness was significantly and positively related to attitude. Perceived usefulness refers to the individual's subjective evaluation of the extent of the system usage, which would enhance the individual's job performance (Davis, 1989). Relatively, similarities are present between the construct of perceived usefulness and performance expectancy (Hew, Lee, Ooi, & Lin, 2016; Martins, Oliveira, & Popovič, 2014) and relative advantage (Carter & Weerakkody, 2008). Perceived usefulness has been widely studied, particularly in technology-related researches (Keil, Beranek, & Konsynski, 1995; Kraemer, Danziger, Dunkle, & King, 1993; Mohd Suki & Mohd Suki, 2011; Moorthy, Samsuri, Mohd Hussin, Othman, & Chelliah, 2014; Renny, Guritno, & Siringoringo, 2013).

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Numerous past studies recorded the significance of perceived usefulness, particularly in relation to taxation. Hung et al.'s (2006) sample of 1099 taxpayers with perceived usefulness items by Davis et al. (1989) obtained a positive significant relationship towards attitude for online tax filing and payment system. Subsequently, a study was performed on 422 online Taiwan taxpayers based on six revised items on perceived usefulness developed by Gefen, Karahanna, and Straub (2003) and Pavlou (2003). Perceived usefulness was found to be positively significant on taxpayers' attitudes (Lu, Huang, & Lo, 2010). Similarly, Lu and Ting (2013) recorded that Taiwan online taxpayers perceived usefulness to have a positive significant attitude towards tax e-filing acceptance. While Indonesian researchers who utilised the items from Wang (2002) and Lu et al. (2010) obtained similar results (Pantow, Sutrisno, & Saraswati, 2016), Zahid and Din (2019) achieved similar results to Lu et al. (2010), Lu and Ting (2013), and Pantow et al. (2016). The usefulness of e-filing towards voluntary income tax filing submissions contributes to the ease of submitting income tax return forms timely without any issues.

Past literature works demonstrated that perceived usefulness was positively significant in the attitudes in other studies, such as electronic health record adoption (Mathai et al., 2020), online game store (Primubadi & Samopa, 2017), E-money server usage intention (Khatimah & Halim, 2016), internet stock trading (Ramayah, Rouibah, et al., 2009), physicians' acceptance of Medline system (Hung et al., 2011), transactional e-government system (Rana, Dwivedi, Lal, & Williams, 2015), e-government services (Zahid & Din, 2019), and m-commerce adoption (Gangwal & Bansal, 2016). Subsequently, the significance of this study was illustrated. Therefore, perceived

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usefulness was proven to be the antecedent of attitude (Chau & Hu, 2001; Ramayah, Rouibah, et al., 2009; Shih & Fang, 2004; Taylor & Todd, 1995c).

Regardless of being termed as performance expectancy or relative advantage, perceived usefulness was included in other studies, such as big data analytic technologies (Zaman, Zahid, Habibullah, & Din, 2021), e-government (Carter & Bélanger, 2005; Carter & Weerakkody, 2008; Rodrigues et al., 2016), users technology acceptance (Im, Kim, & Han, 2008), mobile banking (Baptista & Oliveira, 2015; Oliveira, Faria, Thomas, & Popovič, 2014; Yu, 2012), health and fitness applications (Yuan, Ma, Kanthawala, & Peng, 2015), m-government (Abaza & Saif, 2015; Abu-Shanab & Haider, 2015), and disaster management big data analytics technologies (Zaman et al., 2021). These past studies presented the basis on which taxpayers would assume that filing the income tax return form electronically is useful for making voluntary compliance. In contrast, when filing an income tax return is proven to be a hassle for taxpayers, compliance may not be performed at all cost. Therefore, several past studies obtained insignificant results of perceived usefulness on attitude (Lin, Fofanah, & Liang, 2011).

To increase the users' perception of system usefulness, e-filing should be convenient from the perspective of taxpayers. According to Carter and Weerakkody (2008), it is important for the government to focus on strategies that offer value-added services to taxpayers in terms of factors including service efficiency, speed, and effectiveness. These factors create a convenience perspective among taxpayers in encouraging performance expectancy among the users. Moreover, IRBM has ensured taxpayers with its utmost priority on its e-filing system security, which has resulted in several local

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recognitions. This condition can be acknowledged with a high e-filing usage rate among compliant taxpayers.

2.6.3.3 Perceived Ease of Use and Attitude

Perceived ease of use represents an individual's expectation on the degree where the targeted system is effortless (Davis, 1989). The definition of perceived ease of use in the TAM model by Davis, Bagozzi, and Warshaw (1989) is similar to the term 'effort expectancy' by Venkatesh (2000) and Rodrigues et al. (2016) and complexity (Taylor & Todd, 1995c, 1995b). This definition was widely used in technology adoption studies (Davis, 1989; Hess, McNab, & Basoglu, 2014; Keil et al., 1995; Renny et al., 2013). Although complexity was negatively related to attitude, Taylor and Todd (1995b) found that complexity was significantly and positively related to attitude. The significance of perceived ease of use in the past demonstrated the importance of including this dimension in this study.

Given that many individuals are more prone to technology usage, the majority of individuals in Malaysia prefer the use of e-filing system. When the effortless use of e-filing system is found by the users, the users' intention towards the usage of the system would be enforced. Past studies found that the perceived ease of use had a significant influence on users' attitude (Ambali, 2009; McLeod Jr. et al., 2008; Taylor & Todd, 1995c). Similarly, Gor's (2015) study of online tax filing system adoption among 142 registered medium taxpayers of the service industry in Nairobi, Kenya found that complexity had a positive significant influence on online tax filing system adoption. The efficiency and accuracy in the filing of income tax form would increase when the

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individual taxpayers learn and understand the online e-filing system at a faster rate (Sondakh, 2017). Taxpayers would also gain a positive attitude in the use of online tax filing system with their knowledge of the advantages of the online tax system and ease of operating the system (Sondakh, 2017; Warkentin, Gefen, Pavlou, & Rose, 2002).

The study by Fu et al. (2006) found mixed responses between taxpayers who used electronic tax filing system compared to the manual tax filers. The researchers suggested that the use of electronic tax filing system among taxpayers may not consider the perceived ease of use as an important issue, whereas manual tax filers are more likely to be influenced by the perceived ease of use of the electronic tax filing system. However, the difference in the demographic background could lead to mixed results in studies. Wang (2012) argued that a difference occurred in research results when the respondents originated from different backgrounds. To illustrate, the tendency of young respondents in a technologically sophisticated society could lead to the lesser influence of perceived ease of use of online tax services.

Hussein et al. (2011) identified perceived ease of use and perceived usefulness as the most significant factors of e-filing adoption. To illustrate, Malaysian taxpayers prefer the reliable online tax filing system that provides the comfort of home or office rather than spending time on the road and queuing along with the tax offices. Other tax studies found a significant relationship between perceived ease of use and attitude (Chu & Wu, 2005; Hastuti et al., 2014; Hung et al., 2006; Lu & Ting, 2013; Wu & Chen, 2005). The significance of perceived ease of use in the past studies contributed to the advantage of acknowledging the operational ease of the systems.

Several studies recorded the insignificance of perceived ease of use towards attitude (Kala, Wamba, & Yombia, 2017; Perangin-angin, Respati, & Kusumawati, 2016; Yadav, Sharma, & Tarhini, 2016; Zaman et al., 2021). Yadav, Sharma, and Tarhini (2016) found that perceived ease of use had no significance on the attitude towards mobile commerce adoption among the postgraduate students in Delhi University (India) and Delhi Technological University (India). In Indonesia, Perangin-angin, Respati, and Kusumawati (2016) indicated the insignificance of the perceived ease of use on attitude towards new taxation system acceptance. In line with the results of the previous studies, Kala, Wamba, and Yombia (2017) found that the perceived ease of use was insignificant in the attitude of Facebook adoption based on 142 data collected from social media users in Cameroon universities. Sadaf and Gezer (2020) showed similar results to Perangin-angin et al. (2016) and Kala et al. (2017). The recent study by Zaman et al. (2021) on the adoption of disaster management big data analytics technologies in Pakistan recorded that the perceived ease of use was not significant among employees from Rescue 1122 and National Disaster Management Authorities. Past studies have proven that the mixed results require further research works to be conducted.

Testing the perceived ease of use on attitude based on different environments and context is important. Hsu and Chiu (2004) suggested that the perceived ease of use is included as an attitudinal component. Following the inconsistent results created in past studies regarding the influence of perceived ease of use towards attitudes due to the differences in products and context of studies (Kulviwat et al., 2007; Nysveen, Pedersen, & Thorbjørnsen, 2005; Wu & Wang, 2005), the results validated the importance of the perceived ease of use among researchers. Due to the mixed results, Karaiskos et al. (2012) suggested that further research works are conducted on ease of use. Similarly,

Rana, Dwivedi, and Williams (2015) found that in the perceived ease of use, the predictor that largely encountered variables on behavioural intention was found to be the weakest predictor, as indicated by the significant meta-analytic impact on system usage behavioural intention. Therefore, the dimension of perceived ease of use could indicate its impact on taxpayer's attitude towards voluntary tax compliance.

2.6.3.4 Compatibility and Attitude

Compatibility denotes the degree where innovation is perceived to be in line with past experiences, existing values, and the current needs of likelihood adopters (Rogers, 1983). Therefore, the matching beliefs, needs, wants, and the usage pattern of innovation by individuals would increase the compatibility and consideration for it, unless when the cultural base or social norms are breached. However, after the extensive review on compatibility definitions, Karahanna, Agarwal, and Angst (2006) attempted to eliminate the confounding definitions between compatibility and perceived usefulness by removing the term "compatibility with needs". Karahanna et al. (2006) redefined compatibility as a perceived cognitive distance between innovation and predecessor methods for accomplishing tasks. In an online income tax filing study by Ojha et al. (2009), compatibility was defined as the use of innovation by individuals to develop consistency with the values, prior experience, preferred style, and existing practices, and their attempt to apply the innovation. However, given that income tax filing is mandatory and available according to the tax laws, the users' preferred style would not be applicable compared to online shopping where preferences could be the added advantages. To achieve better predictiveness and parsimonious explanatory power, the definition by Rogers (1983), which was adopted by Taylor & Todd (1995c),

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was used in this study. Hence, compatibility was defined as an innovation that is perceived to be consistent with the current needs, values, and prior experiences of potential adopters.

Several past studies recorded the predictiveness of compatibility on the attitudes towards behavioural intention (Echchabi & Azouzi, 2015; Hung et al., 2006; Tao & Fan, 2017; Taylor & Todd, 1995b, 1995c; Zaman et al., 2021). In Tao and Fan's (2017) study on distance-based electronic toll collection services user's intention, it was found that compatibility had a significant influence on user's attitude. The mobile banking services adoption study by Giovanis et al. (2019) recorded the same impact of compatibility on individual attitudes. Zaman et al.'s (2021) findings were in line with the findings by Tao and Fan (2017) and Giovanis et al. (2019), demonstrating that compatible variable played a significant role in many studies.

Based on the meta-analysis by Rana, Dwivedi, and Williams (2015) on the existing research of e-government adoption by citizens, it was found that past researchers had examined the relationships of compatibility on attitude. In this case, six out of seven studies presented significant results. However, the findings demonstrated that the correlations between compatibility and attitude were less significant in explaining the variance of various dependent constructs. Nevertheless, the relationships between compatibility and attitude were recorded as the best predictors (Rana, Dwivedi, & Williams, 2015). Few studies with nonsignificant findings may present contradicting results (Agarwal & Karahanna, 1998; Carlet, 2015; Cheng, Hung, Tsai, & Chen, 2016; Lin, Fofanah, & Liang, 2011). Although certain results may not be favourable, the significance of compatibility played its role in attitude.

Several studies found that compatibility held less significance on attitude. An internet banking usage study by Shih and Fang (2004) recorded that compatibility had no significant effect on attitude and suggested that although the respondents acknowledged the advantages of internet banking, most of them did not have the experience of using it. Furthermore, the respondents were unable to determine whether internet banking is suitable for their lifestyles or values. Similarly, the study of mobile applications adoption intention by Echchabi and Azouzi (2015) and the study on Islamic microfinance participation behaviour by Maulana, Abdul Razak, and Adeyemi (2018) were found to be insignificant. Past mixed results have proven that adequate study on the compatibility towards taxpayer's attitude should be constantly surveyed to build an understanding of the changes in the needs and requirements of the users, particularly in the online tax compliance area.

The compatibility of taxpayers' practice of income tax filing method is a vital antecedent to compliance behaviour intention. In this case, it is important for tax administrators to integrate useful and valuable functions into electronic tax software for the taxpayers' practices and service requirements while establishing the value of electronic tax filing to taxpayers (Fu et al., 2006). Similarly, in examining online tax filing and tax payment systems on 1,099 individuals, Hung et al. (2006) found that compatibility had a strong influence on users' attitude towards online tax filing system adoption.

Evidence was present in previous studies, which found compatibility as the key determinant of behavioural intention. In the studies of attitude towards connected reader devices, Koeder et al. (2011) found that the role of device compatibility and content

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availability was emphasised by eBook consumers, which was in line with their lifestyles and usage intention. Similarly, Hussein et al. (2011) recorded the compatibility of online tax filing services with the users' lifestyle and the management of e-filing system, which facilitated the continuous usage of e-filing system towards voluntary tax compliance. It was also suggested that tax administrators increase online tax services participation among the public. Thus, the changes in lifestyle may also impact the outcomes of the compatibility relationships on attitudes.

In examining the antecedents of behavioural intentions among young Indian professionals to use the e-filing service for their income tax returns, Ojha, Sahu, and Gupta (2009) found that compatibility had a significant influence on the behavioural intention to use e-filing service. A study by Akkaya et al. (2013) on e-filing adoption by German households using the explanatory analysis recorded that compatibility was the main e-filing adoption antecedent. Meanwhile in Kenya, Gor (2015) found that compatibility had a positive significant influence on the online tax filing system adoption by registered medium taxpayers. It was also argued that although numerous studies regarded compatibility as the most important in many e-government related studies (Carter & Bélanger, 2005; Gilbert, Balestrini, & Littleboy, 2004), the empirical evidence from the studies was scarce (Rana et al., 2013). Hence, past studies presented the need to include compatibility in this study.

2.6.4 Subjective Norm and its Decompositions

Different terms were used to refer to the subjective norm. In the model of TRA, TPB, TAM2, and DTPB, the term subjective norm was used compared to MPCU that used

the term of social factors. Meanwhile, the image was the term used in IDT (Venkatesh, Morris et al., 2003). Similarly, Thompson, Higgins, and Howell (1991) identified the similarities between the term of the social norm with the subjective norm of TRA. Based on the social influence theory, subjective norm or social influence is defined as an individual's perception where the people who are important to an individual think of whether the individual should perform the behaviour or vice versa (Fishbein & Ajzen, 1975; Hussein et al., 2011). Nevertheless, social norm is the only external influence related factor (Bhattacherjee & Sanford, 2006), with external sources including mass media, family, friends, and peers who may influence behavioural intention (Venkatesh & Brown, 2001; Venkatesh, Morris, et al., 2003). In this case, TRA, TAM, and TPB-based research works rarely justify the occurrence of external influence (Bhattacherjee & Sanford, 2006).

Word-of-mouth from referent individuals could offer the added advantage to influence an individual's decision. Anderson (1998, p. 6) defined word of mouth as "*informal communication between private parties concerning evaluations of goods and services*". The word of mouth offers the most effective way of communication (Rogers, 1983) through personal referent that involves face-to-face contact (Arndt, 1967; Godes & Mayzlin, 2004). This condition enables a stronger persuasive effect on individuals who engage in two-way communication through the exchange of information (Md Husin et al., 2016).

Previous studies demonstrated the strong influence of word of mouth on product and services judgement (File & Prince, 1992; Yao & Murphy, 2007), which validated its significance on the subjective norm (Bhattacherjee, 2000; Zolait & Sulaiman, 2009).

File and Prince (1992) found that word of mouth presents a powerful factor in financial services purchase decision, where the customers prefer views and opinions from other individuals to conclude their financial services purchase decisions. Meanwhile, Zolait and Sulaiman (2009) found the significance of word of mouth among individuals' decision on internet banking acceptance. Moreover, the influence of family members, peers, colleagues, and friends on behavioural intention was investigated in many prior studies (Lada, Harvey Tanakinjal, & Amin, 2009; Yap & Sabaruddin, 2009). Therefore, all the individual referents including family members, friends, and colleagues may still have influence on the individual taxpayer's intention to voluntarily comply with tax laws. In this case, the influence and engagement of tax agents are rare in personal income taxes.

Numerous arguments were made on the definition of subjective norm by researchers. Despite being tested in various research works, the result of peer influence is still heavily discussed due to the difficulties formed through mixed results in measuring peer influence, especially in technology adoption studies (Eckhardt, Laumer, & Weitzel, 2009), such as TAM (Davis et al., 1989). In line with other researchers who argued that the opinions of referents or groups in workplace settings might differ or vary in size, Eckhardt, Laumer, and Weitzel (2009) stated that the formation of referents would be challenging to be combined into a group of 'important others'.

Venkatesh and Davis (2000) stated that even if the individuals' responses are not favourable towards behaviour or consequences, they may decide to perform a behaviour due to the belief that subjective norm has influences on the intention. In the technology adoption studies, subjective norm refers to the degree of users perception that others

who are important to them believe that they should use the technology (Baptista & Oliveira, 2015; Venkatesh, Morris et al., 2003; Venkatesh, Thong et al., 2012; Venkatesh & Zhang, 2010). In this case, subjective norm could be significant towards voluntary tax compliance intention via e-filing system. Subjective norm was found to have a direct significant effect on usage intention in a mandatory system, although this did not take place in the voluntary usage context (Venkatesh & Davis, 2000).

According to Posner and Rasmusen (1999), a norm is defined as a social rule that is not government dependable for declaration or enforcement. In this case, mandatory taxation is not able to finance the cost of imposing penalties for normative violation, which should voluntarily originate from the people who enforce the norm. However, Lederman (2003) suggested that tax administrators use the societal norm to tackle and increase voluntary compliance by using broad-based information from taxpayer returns, lesser audits, and norm-based appeals in the case of compliant taxpayers. Furthermore, as a valuable tool for the improvement in marginal taxpayers' compliance while combating noncompliant, the influences of social norms and values could be supplementary to an authentic legal punishment (Branham, 2009). Therefore, tax studies demonstrated that the individuals' role in society and acceptable behaviour norms are believed to have a significant influence on tax compliance (Mohdali & Pope, 2012).

Given that individual taxpayers may be less dependable on tax agents, they are required to rely on others, particularly family, friends, and colleagues to guide and provide information especially during the months of income tax declaration. However, many researchers decomposed the subjective norm into peer and superior influences while

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overlooking the external influences (Taylor & Todd, 1995c), such as the opinions and views of industry experts published in popular newspapers or magazines (Bhattacherjee, 2000). Furthermore, peers or closest family members had the strongest influence on taxpayers compliance attitude, while the subjective norm was found to be positively significant for the increase in voluntary tax compliance (Mohdali, Normeza, & Lokman, 2015). Similarly, in the study of E-money server usage intention, the decomposed variables of family members and social culture influence had a significant positive impact on the subjective norm (Khatimah & Halim, 2016).

Although the surveys in tax compliance studies presented consistent results of subjective norm and compliance relationships, the experimental assessment of peer influence on compliance decisions led to mixed results. Based on the experimental study on 97 prospective jurors in Colorado, Hite (1988) found no significant impact of peers on tax compliance. Furthermore, Trivedi et al. (2003) recorded that noncompliant peers brought a negative impact on tax compliance, although compliant peers might not necessarily have an impact on tax compliance based on the details of the disclosed information. The results by Trivedi et al. (2003) indicated that the information disclosed on peer reporting behaviour may significantly influence compliance behaviour. In addition, the perceptions of others may not have a strong impact on individuals tax compliance beliefs (Bobek, Hatfield, et al., 2007; Mohdali et al., 2015; Wenzel, 2004), especially when the majority believes that avoiding tax payments is not acceptable.

As the main voluntary tax compliance tool, the societal role in influencing the usage of e-filing system to file their income tax return forms could offer an added advantage. In the context of tax compliance, which is mandatory for taxpayers, the method of filing

income tax form is on a voluntary basis. If the e-filing system usage is perceived as mandatory, the subjective norm would be highly important (Hartwick & Barki, 1994; Venkatesh & Davis, 2000). Venkatesh and Davis (2000) argued that in a voluntary usage situation, the subjective norm has a significant influence on perceived usefulness due to the experience gained by users with usage over time compared to the mandatory environment, in which inexperienced users may rely on information circulation by referents. This situation leads to an influence of subjective norms. Past studies suggested that peers and superiors influence, which were termed as social influence, played an important role in the context of information technology adoption (Mathieson, 1991; Taylor & Todd, 1995a; Venkatesh, Morris et al., 2003; Venkatesh, Thong et al., 2012). In the US and China comparison study by Venkatesh and Zhang (2010) on a single organisation using UTAUT, the responses collected from 300 employees indicated that social influence is equally important to all employees in the US regardless of gender, age, and voluntariness. In the research on e-filing among tax preparers by Abdul Aziz and Md Idris (2012a), it was found that social influence was presented by 72.3% variance towards behavioural intention.

While previous studies recorded the significant effect of social influence on system usage intention (Thompson et al., 1991), several studies recorded no significant influence on the intention (Davis, 1989; Mathieson, 1991; Shih & Fang, 2004; Shiue, 2007; Venkatesh, Ramesh, & Massey, 2003). Fu et al. (2006) recorded the insignificant of the subjective norm by taxpayers using the electronic filing method, while manual tax filers had a significant effect. The mixed results could be dependent on the demographic background of diverse respondents who may have different views and requirements. Sun and Jeyaraj (2013) found that social influence might not be

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significant in the early stage of technology adoption due to the availability of facilitating conditions. However, it would improve in the later stage where early adopters would be the peers to influence the non-adopters, including the availability of facilities to ease the use of the system. The result by Sun and Jeyaraj (2013) was different from the previous study by Venkatesh and Davis (2000), who found that people would be less dependent on social information overtime as they gained direct experience on system usage towards the formation of perceived usefulness and intentions.

Taxpayers who used the e-filing system gained benefits from the effectiveness and efficiency of online tax filing. Nevertheless, the research for initiatives to comply voluntarily with the use of e-filing would be highly regarded. In this case, the influences of peers, family members, friends, and colleagues would remain relevant to influence the voluntary tax compliance behaviour. Furthermore, the systematic literature review of 32 articles by Al-Zaqeba, Abdul Hamid, and Muhammad (2018) highlighted the importance of subjective norms towards individual taxpayer's compliance behaviour.

While the information may be abundant on internet websites, the use of mass media as a referent may be equally important in influencing voluntary tax compliance behaviour. In the era of technology advancement, online communications provide a fast and easy method to obtain feedbacks and interactive means of borderless information gathering. Godes and Mayzlin (2004) found an easy and cost-effective opportunity way to measure word of mouth, which was through online conversations. Individuals may tend to use mass media, particularly the internet as referent when being placed in clueless situations or doubts. Numerous studies were performed on the usage of mass media as referents, such as internet banking (Zolait & Sulaiman, 2009), e-broking (Bhattacherjee, 2000),

consumerism (Lee, Salmon, & Paek, 2007), and takaful purchase intention (Md Husin et al., 2016). However, limited studies were known for the influence of mass media as a referent towards voluntary tax compliance especially in the Malaysian scenario. Therefore, peer influence and mass media referents were included in this study to develop an understanding of voluntary tax compliance behaviour via e-filing system.

2.6.4.1 Peer Influence and Subjective Norm

Individual taxpayers may seek the family members, friends, and colleagues for information during the months of income tax declaration. In contrast to corporations or businessmen that may have the funds to engage tax agents in the preparations of their income tax declarations, individual taxpayers who only have employment income may not gain the same opportunities due to limited sources of funds. Peer influence is similar to social influence, which refers to the peer pressure imposed on individuals to conform to a distinctive group. This situation results in a specific behaviour (Eckhardt et al., 2009).

In the study on low-income individual taxpayers in the USA, Efebera, Hayes, Hunton, and O'Neil (2004) found that peer taxpayers could have a positive effect on tax compliance intention. A study was conducted by Wartick and Rupert (2010) on the observation effect of a peer's income, which reported the likelihood of including genders decision making roles on 125 students from the financial and managerial accounting classes. Subsequently, it was proven that peer influence had a significant impact on compliance behaviour, in which participants who viewed their peer non-compliant decision would make dishonest reports compared to their compliant peers. It

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was also found that this type of report would be made by the participants upon the belief that their peers would view their responses compared to the privately kept responses. Despite the absence of peer observation made on the interactive effect between genders, it was also found that men were less compliant compared to women (Wartick & Rupert, 2010). Nevertheless, the study on 114 individual taxpayers in Indonesia showed that social pressures from family members, colleagues, and other taxpayers had a significant effect on the increase in compliance intention (Damayanti, 2012). The findings by Onu and Oats (2015) observed that taxpayers were actively persuading and influencing other taxpayers towards compliance with tax laws with only a small number of noncompliance cases. The importance of peer effect was emphasised in the recent works of literature (Kirchler, 2007; Pickhardt & Prinz, 2014) to focus on the individual compliance decision regarding the existing norms and practices. Therefore, the effectiveness of social norms depended on active peers' social influences (Onu & Oats, 2016).
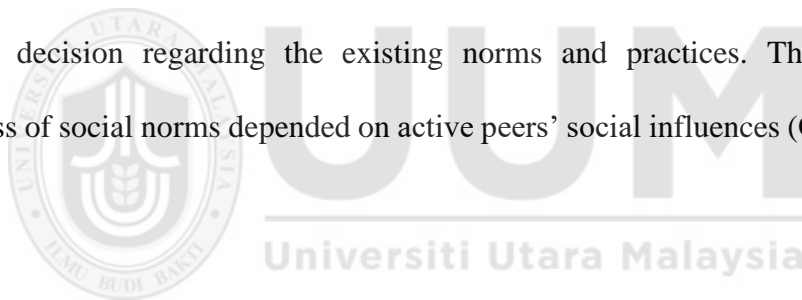
In a previous study by Hite (1988) through a role-playing experiment that involved undergraduate, postgraduate, and tax preparers, no significant impact of peer influencing on tax compliance was found. The mixed results could be subject to the usage of students as respondents. Similarly, the study by Mohdali and Pope (2012) recorded that peer influence on salaried taxpayers in Malaysia, who had a lesser chance to avoid taxes, was found to have no significant effect on voluntary tax compliance.

In the era of technology, peer influence plays an important role in spreading the advantages of adopting IT systems. Godes and Mayzlin (2004) found that online conversations offer easy and cost-effective means of communication. Furthermore, the

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use of mass media as a referent could be an option when peers are not around as reference or for discussions. Hence, the usage of mass media as a referent is discussed in the subsequent sections. Notably, communication on the system advantages through word of mouth could be beneficial in creating more knowledgeable taxpayers regarding the system (Goswami, 2014) whilst increasing the numbers of online tax filing system users, which would indirectly increase the number of voluntary tax compliance. Meanwhile, Faisal and Talib (2016) highlighted the substantial positive effect of individuals' exposure to limited online services and peer influences on the adoption of government online services. With lesser personal connections among individuals, they are encouraged to use digital services to manage government departments (Faisal & Talib, 2016). Word of mouth refers to "*the communication directed to citizens (end users) regarding the usage of services and information available on government websites by other users who have experienced or are aware of e-government services*" (Alomari, Sandhu, & Woods, 2014, p. 134), which is considered one of the major factors of online service adoption determinants (Faisal & Talib, 2016).

The study of GST implementation in Malaysia by Ching, Kasipillai, and Sarker (2017) found that peer influence had a significant impact on the acceleration towards the transition to the new GST system. However, limitations were present in the social influence scope of family, friends, and fellow retailers, with trade associations playing a minimal role in influencing the taxpayers, which was in contrast to the study by Damayanti (2012). In the implementation of the new GST system, the IT consultants were more influential compared to tax advisors, auditors, and GST consultants towards the GST compliance behaviour.

Various studies recorded the significance of peer influence on the subjective norm. Md Nor and Pearson (2008) conducted an exploratory study on the internet banking adoption of a developing country in Malaysia. As a result, it was found that peer influence had a positive significant influence on the subjective norm. The exploratory study by Sadaf, Newby, and Ertmer (2012) on web 2.0 technologies usage intentions among preservice teachers recorded that peer influence had a significant determinant on the subjective norm. Meanwhile, the study on the virtual reality brain injury rehabilitation therapists adoption by Glegg et al. (2013) found that peer influence showed the strongest correlation on the subjective norm. In the case of online consumer behaviour, Azam and Qiang (2014) recorded that peer influence had a significant effect on the subjective norm, suggesting that peer influence could be more influential compared to the usage of mass media as a referent. Dahiya and Gayatri (2017) also found that family and friends, including online friends, had a significant effect on subjective norms. The recent findings by Sadaf and Gezer (2020) and Ndlovu et al. (2020) were in line with the results of previous studies by Glegg et al. (2013), Azam and Qiang (2014), and Dahiya and Gayatri (2017). Overall, peer influence has been proven to be a crucial point in this study.

2.6.4.2 Mass Media Referent and Subjective Norm

Mass media lead to several advantages, such as the development of knowledge and the spreading of information while reaching a rapidly large audience (Rogers, 1983). Generally, mass media are "informational" (Aggarwal, Cha, & Wilemon, 1998). Pasek, Kenski, Romer, and Jamieson (2006) described it as all methods of transmitting messages, such as radio, television, newspapers, and the internet. Therefore, the norms

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and other nonmonetary elements are considered in taxpayers' compliance decision, mass media, and celebrities who act as the reflections and embodiments of social norms and values in aiding tax administrators (Branham, 2009). Moreover, individuals tend to trust the information conveyed through television media, internet word-of-mouth, and experts (Tsai, Cheng, Hung, He, & Wang, 2015). Similarly, Tao and Fan (2017) described external influence as the opinion of experts, media reports, television advertisements, and online word-of-mouth.

Several definitions are present for mass media referent. Bhattacherjee (2000) operationalised external influence as the mass media reports, other non-personal information, and expert opinions are considered by individuals in performing a behaviour. Ng and Rahim (2005) defined mass media as the pressure or influence from mass media to perform a behaviour, while Harrison (2009) emphasised awareness, internationalisation of media-presented body, and perceived pressure from media. The advertisement frequencies are believed to influence individuals' social pressure and belief on whether they should perform the subject behaviour or vice versa (Md Husin et al., 2016). According to Md Husin and Ab Rahman (2016), mass media referent is the belief among individuals that mass media referents encourage the participation of individuals through radio or television. In this study, mass media referent was described as the mass media pressure conveyed through television, radio, advertisements, report, media-presented individuals, or online word-of-mouth towards performing a behaviour.

Numerous studies validated the significance of mass media (Bhattacherjee, 2000; Md Husin et al., 2016; Sadaf & Gezer, 2020). The study by Bhattacherjee (2000) recorded that external influence, which exemplifies the mass media influence, to have a

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significant influence on subjective norm. A recent study by Md Husin et al. (2016) substantiated the strong influence of mass media on subjective norm among Malaysian families in the purchase of family takaful scheme. Accordingly, Sadaf and Gezer (2020) proved the significance of mass media on the subjective norm among teachers' intention to integrate digital literacy in the United States. These studies demonstrated the strong influence of mass media on individuals, including the individuals in Malaysia. However, less information was present regarding the effect of mass media referents in the context of voluntary tax compliance among the individuals in Malaysia.

Strategic and effective programmes and publicities through mass media are important to tax administrators to increase tax compliance (IRBM, 2017b). A survey by MCMC (2016) recorded that although the majority of internet users visited the government website, they preferred social media for information instead of the government official websites. The development of e-government is an integral part of the governmental agency role to provide effective and efficient information, including services to citizens (Carter & Bélanger, 2005; Hussein et al., 2011; Warkentin et al., 2002). In addition, mass media could also be used to obtain easy and cost-effective methods of online conversation (Godes & Mayzlin, 2004), which could be described as "electronic word-of-mouth".

According to Branham (2009), taxpayer's social values and social norms significant influence their decision to voluntarily comply, in which social values are affected by mass media including television shows, news reporting, and advertising. Furthermore, mass media with appropriate voluntary compliance campaigns creates a long-term impact on behaviour (Branham, 2009). However, Olowookere and Fasina (2013)

suggested that the usage of media to display the actions taken by tax administrators should be balanced between enforcement and educational programmes towards fostering voluntary tax compliance. It was suggested that tax administrator directly presents precise tax information to taxpayers to enhance the positive impacts on subjective norms towards voluntary tax compliance attitudes (Mohdali et al., 2015).

Mass media provides the communication channels with a potential for its usefulness (Mason & Mason, 1992). Publicity would positively influence the public's perception of e-government adoption when the advantages of the electronic services are publicised (Bélanger & Carter, 2008). Following that, website users would recommend it to others (Freed, 2010). Furthermore, publicity would increase the number of non-adopters with their increased perceptions towards tax administrators when the assurance, incentives, advantages, and success of online usage experience lead to their willingness of using e-government services in the future (Bélanger & Carter, 2008). In this case, the frequent publicity of assurance, incentives, and advantages of voluntary tax compliance via submission of individual income tax forms through e-filing system would be beneficial to tax administrators.

The items of mass media as referents have led to mixed results. Hsu and Chiu's (2004) study on web-based tax filing service users in Taiwan recorded that the items used in their external influence, which was similar to the usage of mass media as referent, had significant influence on the taxpayers' e-service satisfaction. In contrast, Hung et al.'s (2006) research on online tax filing and payment system in Taiwan with 1,099 usable responses found that a significant external influence occurred with the dimensions of mass media as referents towards subjective norm. However, several factors were not

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included in the study, such as internationalisation and pressures. Therefore, the use of artistes as a marketing tool was suggested towards influencing other taxpayers to comply with tax laws voluntarily.

The internalisation of voluntary tax compliance intention could develop motivation towards compliance decision. IRBM has been using artistes as ambassadors to other taxpayers including fellow artistes towards influencing others in performing their responsibilities as taxpayers (IRBM, 2016a). The enhanced peer influence with the involvement of artists as an internalisation could enhance the assistance by IRBM towards encouraging voluntary tax compliances. Sudarma and Darmayasa (2017) recorded that internalisation is important towards taxpayers' compliance decisions. Previously, Hung et al. (2006) suggested that tax administrators endorse popular artistes as a part of marketing strategy towards encouraging e-filing system adopters to comply with tax laws voluntarily. The IRBM could further enhance the internalisation to foster voluntary tax compliance on a larger scale. The internalisation of collective benefits through identification with the nations enhances the nation welfare commitment (Wenzel & Jobling, 2006), which increases the voluntary cooperation (Huddy & Khatib, 2007; Schatz & Lavine, 2007).

The relevance of information provides the incentive for taxpayers to seek tax information (Olowookere & Fasina, 2013). With the increasing number of users of technologies, the usage of mass media is vital for an effective medium of tax education and dissemination of tax knowledge to improve taxpayers' attitude towards compliance (Cyan, Koumpias, & Martinez-Vazquez, 2017; Roberts, 1994). Furthermore, Cyan et al. (2017) highlighted that the accurate timing of the mass media campaign should be

adhered to. Therefore, mass media could be used as a tax compliance referent, given that the medium offers easy accessibility, adequate information, and accurate timing of tax knowledge dissemination.

With reference to the study by Kahneman and Tversky (1979), James Alm (2013) proposed the introduction of a reference point, which was defined by Kahneman and Tversky's prospect theory as a form of social norm. In this definition, it is assumed that an individual suffers a loss in utility when the given defined reference point level of utility is not achieved. Therefore, when all income is reported and paid, the social norm may be achieved, while taxpayers may suffer from loss of utility if the income is not fully reported or lesser tax is paid. The mass media could also be the "library" for individual taxpayers to refer to when uncertainties arise.

Voluntary tax compliance could be improved when tax administrators adopt a more service-oriented approach in communicating and interacting with taxpayers through the engagement of service and client's attitude (Cyan et al., 2017; Kirchler et al., 2008; Pickhardt & Prinz, 2014). Besides the attempt to influence norms, the OECD also suggested that tax administrators incorporate normative messages when managing taxpayers (OECD, 2010b). The rationale of tax rules should be communicated to all taxpayers by tax administrators to disseminate the information, which could also increase taxpayers compliance especially when tax simplifications are impossible (Che Azmi et al., 2016). Programmes that enhance tax knowledge, such as tax education, have a significant impact on taxpayer's voluntary compliance through the dissemination of information regarding the implications of socio-economic of tax evasion opportunities, which include the transparency and accountability of tax

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proceeds usage (Olowookere & Fasina, 2013). Hence, the ease of information availability on tax requirement and taxpayers responsibilities, which includes the benefits of paying taxes, could impart tax knowledge and motivate taxpayers towards voluntary tax compliance (Hauptman et al., 2015; Saeed & Shah, 2011; Vossler et al., 2011). In addition, the awareness-rising campaigns and normative appeals on the advantages of tax declarations and disadvantages of undeclared taxes could improvise tax knowledge, which is achieved through cooperation instead of the pressure to change taxpayers' attitudes towards compliance (Hauptman et al., 2015).

Alm et al. (2011) found that uncertainty reduces income tax filings, except for the provision of tax information that reduces the uncertainty effect on income tax filing. When the collected information is understood by the taxpayers, the willingness to submit income tax form voluntarily would increase. Furthermore, detecting and punishing the individuals who do not file the income tax form are not simple actions (Alm et al., 2011). In the study of social media usage to seek information, Kim, Sin, and Tsai (2014) found that a variety of social media platforms was used to seek information as it offered effective strategies with potential informational sources through the usage and evaluation of popular social media sources. Additionally, the study on 800 students presented significant differences in terms of class level, gender, Big Five personality traits, and academic disciplines through information seeking frequencies and the purpose of using these different media platforms (Kim et al., 2014). Tax information is vital in reducing the uncertainties in income tax filing intentions. Hence, mass media could be used as referent or reminder to taxpayers towards filing income tax forms voluntarily.

Several other studies also found the significance of mass media as a referent related to the subjective norm. Mutz's (1989) study of mass media impact on the Stanford community recorded that mass media had a significant influence on the subjective norm. Meanwhile, Gunther, Bolt, Borzekowski, Liebhart, and Dillard (2006) demonstrated the effect of mass media on subjective norms towards understanding smoking behaviours. Md Nor and Pearson (2008) suggested through their findings that the acquirement of significant positive results on subjective norms from the reference groups would enhance the promotional and effective advertising efforts. The studies by Gerrard and Barton Cunningham (1997) and Ayinde and Echchabi (2012) presented the significant positive effect of mass media on the subjective norm. Furthermore, Ayinde and Echchabi's (2012) examinations of Islamic insurance services adoption showed customers' agreement regarding the ability of mass media to influence their subjective norm. Dahiya and Gayatri (2017) recorded significant results of online friends on subjective norms. The recent study by Zaman et al. (2021) was in line with the studies by Mutz (1989), Gerrard and Barton Cunningham (1997), Gunther et al. (2006), and Ayinde and Echchabi (2012) with similar positive and significant results of mass media influence on subjective norm among disaster management big data analytic technologies users in Pakistan.

In the current era of information technology, it would be common for internet users to obtain information online to achieve better understandings. The usage of media as a communication tool has been initiated in several countries, such as the UK, USA, New Zealand, Australia, Singapore, and Canada (OECD, 2011a). Turcotte, York, Irving, Scholl, and Pingree (2015) found that amplified social media effects led to individuals' attempts of following news and real-life story sharing on social media. Similarly, the

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result by Dahiya and Gayatri (2017) indicated the use of internet sources for obtaining information in their decision making regarding the use of digital marketing communication among car buyers in India. Hence, the online sites and communication applications served as referent tools for the technology savvy generations. The indication obtained from past studies presented the basis to examine mass media referent as an influential variable towards the subjective norm.

2.6.5 Perceived Behavioural Control and its Decompositions

According to Ajzen (1991), the perceived behavioural control in the TPB model represents the individual's perception of easiness or difficulties in performing the behaviour of interest, which implies past experience, opportunities, and availability of resources, such as time, money, skills, or cooperation of others. Similarly, perceived behavioural control refers to the beliefs regarding access to available resources including money, time, and other resources. These resources include the opportunities required to perform a behaviour, such as an individual's self-confidence in the ability to execute behaviour that is compatible with the concept of perceived self-efficacy by Bandura (1977, 1982) (Ramayah, Mohd. Yusoff, et al., 2009).

In comparing with TRA, Ajzen and Madden (1986) found that perceived behavioural control had a significant effect on the prediction of intention. It also provided accurate predictions for intention and goal attainment compared to TRA. However, Taylor and Todd (1995b) argued that the TPB model failed to achieve significance in the DTPB model although the earlier model presented significant perceived behavioural control and behavioural intention path. Furthermore, the researchers argued that besides the

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perceived behavioural control equivalent of self-efficacy, perceived behavioural control and resources constraints (time and finance) should be multi-dimensional, as argued by Ajzen (1991). However, the argument by Taylor and Todd (1995b) contradicted the previous findings by Ajzen and Madden (1986) who recorded little evidence of the interactions between perceived behavioural control and other independent variables of the TPB theory.

Ajzen (2002) illustrated two separate components of perceived behavioural control, which reflects the beliefs about controllability and self-efficacy. However, these components could not be regarded as the unitary latent variable of a hierarchical factor model. It was further argued that internal control factors and self-efficacy, or external control behaviour and controllability, were not corresponding with each other (Ajzen, 2002). In addition, it was found that self-efficacy comprised significant variance in intentions, although controllability showed a significant effect on the prediction of behaviour instead of intentions. Nevertheless, the analysis of past studies presented contradicting evidence of the controllability effect, where the majority of studies proved that controllability had significant influence on intention predictions instead of behaviour (Hsu & Chiu, 2004). The combination of self-efficacy and controllability presented the significant intention predictions instead of the prediction of behaviour (Ajzen, 2002).

As suggested by Venkatesh, Morris et al. (2003) stated that perceptions will become more specific after a direct experience using the system. In Fu et al.'s (2006) study on the acceptance of electronic tax filing intention, it was found that taxpayers' past experience of filing method had a significant effect on perceived behavioural control

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due to the past experience of electronic taxpayers with eTax. However, manual filers might not have the experience. According to Fu et al. (2006), taxpayers who file manually may base their perceived behavioural control on the general belief of computers and its use compared to taxpayers who file electronically and may have specific perceptions regarding their interactions with eTax. The aforementioned studies presented the basis that when the individual taxpayers are experienced in the use of income tax filing system, such as the e-filing system, they would be able to familiarise and use the system without hesitations. This condition is described as self-efficacy by Bandura. This was demonstrated in the study of e-filing usage intention by Ghazali, Raja Mustapha, and Mohamad Mozie (2014), who used the self-efficacy and facilitating condition items as measurements on respondents from the government agencies in Shah Alam, Malaysia. Subsequently, it was found that perceived behavioural control had significant influence on e-filing usage intention compared to the measurement of subjective norm.
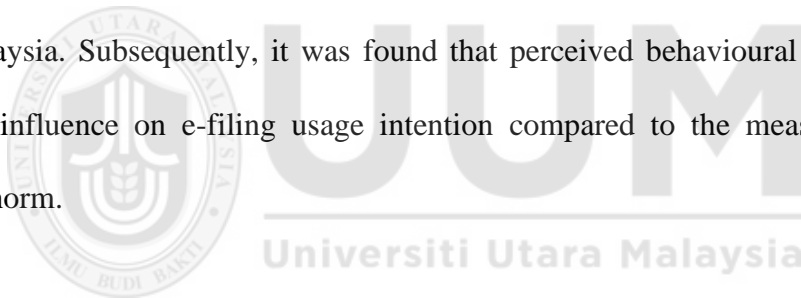
A study was conducted by Bidin and Md Idris (2009) on 250 Muslim employees' intention to comply with zakah payment in the state of Kedah, Malaysia using multiple regression analysis. It was found that perceived behavioural control had a significant impact on zakah payment compliance. The authors highlighted that financial status, knowledge, and understanding of tax were few significant factors that influenced the individual's intention. Meanwhile, the study on taxpayers in Kota Palembang, Indonesia by Lesmana, Panjaitan, and Maimunah (2018) found that perceived behavioural control had positive significant influence on intention. Furthermore, many other past tax studies recorded the significance of perceived behavioural control on intention (Aliffiani, Syamsurijal, & Fuadah, 2018; Lu & Ting, 2013; Marthadinasyah

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et al., 2014; Wu & Chen, 2005). The importance of perceived behavioural control and its antecedents could present the significance of research in developing an understanding of the control behaviour of individuals. Therefore, the antecedents of perceived behavioural control were discussed in the subsequent sections.

2.6.5.1 Self-Efficacy and Perceived Behavioural Control

According to Bandura (1977a), besides the anticipated personal performance consequences, self-efficacy is defined as IT usage activity, which is perceived as efficient on the cognitive ability of users. The individual's computing ability judgement has significant influence on the selection of technology (Burkhardt & Brass, 1990). Ajzen (2002) refers self-efficacy as the convenience, difficulty, or confidence of an individual in their ability of performing a behaviour. However, Hsu and Chiu (2004) stated that self-efficacy does not present the concept similarities in the perceived ease of use, which was in line with the argument by Ajzen (1991) and Davis (1989). Notably, the significance of self-efficacy on perceived behavioural control indicated the individual's higher perceptions regarding their ability to use the system, which leads to more precise perceived control over behaviour (Hung, Tang, Chang, & Ke, 2009). In summary, Tao and Fan (2017) described self-efficacy as one's ability to perform a specific behaviour.

In this digital era, many individuals are using electronic gadgets in their daily lifestyles, especially online product purchases, searching and transferring information, and online payments without hassle. The self-efficacy could also indicate the ability of individual taxpayers to search tax-related information and use the electronic medium to comply

with tax laws. In the studies of online tax services, Singh and Sharma (2010) highlighted the importance of tax administrative efficiency in the assessment of attitude among individual taxpayers. Prior studies found that self-efficacy was vital to the effectiveness and efficiency of tax delivery services. Tan, Pan, and Lim (2005) stated that one of the key aspects of business process efficacies is the effective utilisation of IT to enhance public service delivery efficiency. Besides the effectiveness over other alternatives, Lam (2006) proposed to publicise the efficient technology advantages. Shiue (2007) added that individuals would have more control over technology when they possess self-efficacy. Facilitation of e-filing is one of the strategies applied to achieve the efficiency of tax administration and compliance (Lai & Choong, 2008b). Therefore, Zakaria et al. (2009) found that e-filing is efficient to be used. Moreover, Santhanamery and Ramayah (2015) highlighted the benefits of e-filing, which include the reduction of processing time to save time and achieve convenience, accuracy, security, and cost-effectiveness. This condition leads to increased efficiency and productivity. Hence, the tax filing campaigns and workshops should focus on enhancing the taxpayers' self-efficacy and instilling their confidence in filing income tax forms on their own, especially through the use of an e-filing system.

Numerous studies validated the significance of self-efficacy on perceived behavioural control. Taylor and Todd (1995b) found that self-efficacy had a significantly positive relation to perceived behavioural control. Chu and Wu's (2005) study on taxpayers' behaviour towards electronic tax filing systems recorded that self-efficacy had a strong relationship with perceived behavioural control. Similarly, the exploratory study by Sadaf, Newby, and Ertmer (2012) on the usage intention of web 2.0 technologies among preservice teachers recorded that self-efficacy was a significant determinant of

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perceived behavioural control. In their assessment of the citizens' E-government system transaction adoption, Rana, Dwivedi, and Lal et al. (2015) found that self-efficacy brought a significant impact on perceived behavioural control. In other past studies, self-efficacy was found to be significant towards perceived behavioural control (Azam & Qiang, 2014; Tao & Fan, 2017).

Several studies demonstrated the significance of self-efficacy about perceived behavioural control, which included the studies of e-government services in Pakistan (Zahid & Din, 2019), Integrating Digital Literacy (Laksani, Fauziati, & Wijayanto, 2020; Sadaf & Gezer, 2020), Electronic Health Records adoption (Mathai et al., 2020), and integration of mathematics teaching and learning ICTs (Ndlovu et al., 2020). A similar result by Zaman et al. (2021) recorded in their study on Big Data Analytics (BDA) Technologies adoption in Pakistan that self-efficacy was positively significant for the perceived behavioural control. Overall, the findings justified the past results by Bhattacherjee (2000) and Taylor and Todd (1995b).

Several studies recorded an insignificant relationship between self-efficacy and perceived behavioural control. Electronic tax filers were significantly higher compared to manual tax filers, given that the electronic tax filers with higher IT self-efficacy would have more filing options to choose from. Wang (2012) found that self-efficacy had a high influence on adopters rather than the non-adopters. Therefore, the studies by Cheng, Tsai, Hung, and Chen (2015) and Cheng, Hung, Tsai, and Chen (2016) found that self-efficacy was not significant in the perceived behavioural control. The mixed result indicated the need to further understand the effect of self-efficacy on tax filers,

particularly when the filing of income tax forms shifted from manual towards electronic forms.

2.6.5.2 Facilitating Conditions and Perceived Behavioural Control

Taylor and Todd (1995c) described facilitating conditions as the beliefs concerning the availability of resources in facilitating the behaviour. Facilitating conditions are defined as the individuals' perception of available resources and support in performing a behaviour (Baptista & Oliveira, 2015; Venkatesh, Morris, et al., 2003; Venkatesh, Thong et al., 2012; Venkatesh & Zhang, 2010). These conditions could be referred to as perceived behavioural control in TPB and DTPB, including adoptability and innovation of Roger's (1995) Innovation Diffusion Theory (IDT) (Rodrigues et al., 2016). Taylor and Todd (1995c, 1995b) separated facilitating conditions into two dimensions, namely technology facilitating conditions and resource facilitating conditions. It was indicated that in IT usage intention, resource-related factors including time and money and other factors related to technology compatibility issues may constrain technology usage (Taylor & Todd, 1995c). However, mixed results were gained. On the contrary, Taylor and Todd (1995b) adopted facilitating conditions from Ajzen (1985), who stated that time, money, and technology are the key facilitating conditions required for innovation, which was subsequently found to have a significant impact on perceived behavioural control. Hence, the resource facilitating conditions were not considered in this study as the e-filing system was offered free of charge and easily accessible at any time during the income tax filing period.

Fu, Chao, and Farn (2004) found that the choice of taxpayers' tax filing method was limited to the technology and facilitating condition resources. It was also mentioned

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that the absence of available computer facility and support placed limits on the taxpayers' filing method preferences. Similarly, Sun and Jeyaraj (2013) found that in the earlier stage of technology implementation, the influence of facilitating conditions may not be significant due to limited resources and the availability of facilities to accommodate user's needs. However, a different scenario occurs in the later stage of technology adoption when all the facilities and resources are available to ease the use (Sun & Jeyaraj, 2013). Despite the differences in the influence of facilitating conditions, the annual mandatory responsibility of tax compliance may have an impact on taxpayer's behaviour as they may overlook the aspect of operational processes in filing income tax forms electronically.

Enabling the presence of resources including the internet, computer system, and compatible training on government electronic service facilitation usage allows individuals to obtain adequate resources, command, and knowledge to use the system (Rana, Dwivedi, Lal, & Williams, 2015; Taylor & Todd, 1995b). In the absence of the enabling resources, the barriers to adoption are presented, while the formation of intention is limited (Lau, 2004; Lau & Kwok, 2007). Thus, the significance of facilitating condition in relation to perceived behavioural control demonstrated the latter's reliance on resources including technology support, money, and time to a certain extent (Rana, Dwivedi, Lal, & Williams, 2015).

Although taxpayers may possess the ability to operate the e-filing systems on their own, their ability judgement may be affected by the selection of technology usage. According to Burkhardt and Brass (1990), the computing ability judgement of an individual places a significant impact on technology selection. In the studies of online tax services, Singh

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and Sharma (2010) highlighted the importance of tax administrative efficiency in individual taxpayers assesses attitude. Previously, Tan et al. (2005) stated that one of the key aspects of business process efficacies is the effective use of IT to enhance public service delivery efficiency. Fu et al. (2006) described e-filing as an important tax-related process automation application effort to improve tax assessment efficiency and tax information collection efficiency. In the descriptive data in the study by Zakaria et al. (2009), most of the respondents agreed that the e-filing system usage could increase efficiency. However, Lam (2006) proposed to publicise the efficient technology advantages, besides its effectiveness over alternative methods. The effectiveness and efficiencies of facilitating conditions may change in due course. Changes in individual's preferences over time due to technological advancement may also impact the preferred facilities.

The facilitation of e-filing is one of the strategies to achieve efficiency of tax administration and compliance (Lai & Choong, 2008a). Zakaria et al. (2009) found that e-filing is efficient to be used. Actions could be taken to facilitate the success of e-filing initiatives by building trust and ensuring that the public is knowledgeable about the e-filing system (Goswami, 2014). Santhanamery and Ramayah (2015) highlighted that the benefits of e-filing include the reduction of processing time, which saves time and provides convenience, accuracy, security, and cost-effectiveness, and leads to increased efficiency and productivity.

In line with one of the pledges by IRBM to perform their duties with quality, efficiency, and effectiveness (IRBM, 2006), it would be appropriate to examine the influence of facilitating conditions on the intention of using e-filing system for compliance. The

meta-analysis by Rana et al. (2013) on e-government adoption studies recorded that the use of facilitating conditions was not frequent. However, the provision of technical support in these conditions could ease the taxpayers in their income tax from submission. It was also found that facilitating conditions in the form of technical support had significant influence on intentions (Rana, Dwivedi, Williams, & Weerakkody, 2016). In the study by Lim, Masrom, and Din (2014), the e-filing users perceived that e-filing system was not convincing, suggesting that tax administrators provide technical support to change the taxpayers' mindset in the use of e-filing system instead of submitting income tax form manually. Moreover, it was argued that technical support could add value to the e-filing system (Kotnal, 2016), which enhanced the advantage of using e-filing system towards voluntary tax compliance intention. With the constant update and upgrade of income tax filing processes to ease the taxpayer's preferences, the current facilitating conditions may be required to further understand taxpayers' behaviours.
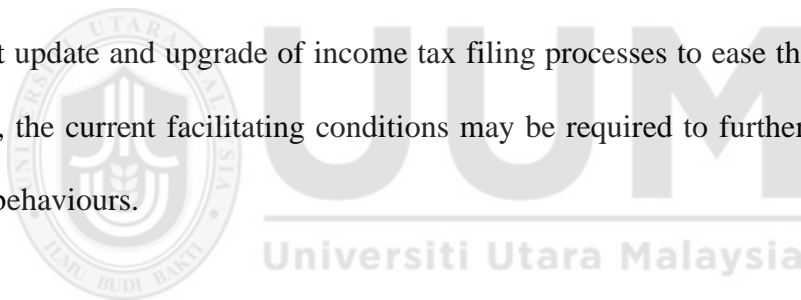
Previous studies presented the significance relation of facilitating conditions in perceived behaviour. In their survey on end user's usage behaviour of government electronic tendering system, Chu et al. (2004) obtained results indicating the significance of facilitating conditions in perceived behavioural control. The survey on taxpayer's behaviour towards electronic tax filing system in Taiwan by Chu and Wu (2004) recorded the significant relationship between facilitating conditions and perceived behavioural control. Subsequently, similar results were obtained by Chu and Wu (2005) in the subsequent year, in which facilitating conditions were significantly related to perceived behavioural control in the taxpayers' behaviour towards electronic tax filing system. The exploratory study by Sadaf, Newby, and Ertmer (2012) on web

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2.0 technology usage intentions among preservice teachers found that facilitating conditions comprised a significant determinant of perceived behavioural control.

Meanwhile, the assessment of transactional E-government system adoption by citizens across cities in India by Rana, Dwivedi, Lal et al. (2015) found that facilitating conditions had a significant influence on perceived behavioural control. The recent studies also indicated the significance of facilitating conditions on perceived behavioural control (Mathai et al., 2020; Tao & Fan, 2017; Zaman et al., 2021). In Taiwan, Tao and Fan (2017) found the significance of the impact of facilitating conditions on the perceived behavioural control obtained from 385 distance-based electronic toll collection (ETC) service users. Mathai et al. (2020) operationalised facilitating conditions as the resource and support availability to use the Electronic Health Record system. As a result, 233 Australian respondents showed significant results on perceived behavioural control. Similarly, Zaman et al. (2021) found that the self-administered survey obtained from 361 members of the Pakistan National Disaster Management Authority and Response Units was consistent with the aforementioned studies. This finding was in line with past studies by (Bhattacherjee, 2000; Lau & Kwok, 2007; Taylor & Todd, 1995b). Hence, the important role of facilitating conditions in perceived behavioural control was included in this study.

Several past studies indicated the insignificant relationship between facilitating conditions and perceived behavioural control (Hung et al., 2011; Ng & Rahim, 2005; Sadaf & Gezer, 2020; Zahid & Din, 2019). By investigating the factors that influenced user's intention to practise home computer security, which was administered on 233 home computer users, Ng and Rahim (2005) found that facilitating conditions did not

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have a significant effect on perceived behavioural control. Hung et al. (2011) recorded facilitating conditions as insignificant in their studies on physicians' acceptance of Medline system. In addition, Zahid and Din (2019) obtained mixed results, in which the technology facilitating conditions were insignificant. However, the resource facilitating conditions were found to be significant, which was in line with the study by Taylor and Todd (1995c). Similarly, Sadaf and Gezer (2020) gained insignificant results in their study on e-government adoption intention, which was recorded from 396 public universities employees in Pakistan and evaluated using PLS-SEM. The mixed results presented the required examination of facilitating conditions preferences by the taxpayers.

2.6.5.3 Ability to Pay and Perceived Behavioural Control

Economic conditions are vital for compliance, where liquidity problems may result in the likelihood of tax evasions especially during the economic downturn (Walsh, 2012). A belief is present among taxpayers that others with the same social contract will be more willing to pay taxes (Mohdali & Pope, 2012). Similarly, taxpayers may comply with tax laws if they are financially sound. In the exploratory study by Fjeldstad and Semboja (2001), it was found that the ability to pay was a significant background variable to present tax compliance. Furthermore, Copeland and Cuccia (2002) found that expectation and financial position affected taxpayers' filing decisions on whether the taxpayer had lesser refunds, increased tax liabilities, or larger amount of taxes due to filing. Past studies proved that taxpayers payment position could affect the level of tax compliance (Jackson & Hatfield, 2005; Schepanski & Kelsey, 1990). Therefore,

any lack of tax payment funds would inhibit an obstacle to any intention to comply with the tax laws possibly employed by taxpayers (Smart, 2013).

Previously, Mohamad, Radzuan, and Hamid (2017) mentioned that most individual taxpayers in Malaysia comply by submitting their income tax form on time. However, they fail to make full tax payments on time according to their own tax assessments, which increases the amount of tax arrears and debt to the government. The authors stated that an additional late payment penalty of 10% and 5% would be applied under Section 107 ITA 1967 and Section 103 ITA 1967, respectively, which may cause an additional financial burden, particularly the individual taxpayers with employment income. Hence, this study examined the ability to pay among individual taxpayers to facilitate their tax payments and reduce the possibilities of tax arrears and tax payment defaults.

Taxpayers may require certain financial buffers upon the payment of tax dues. Based on the data of taxpaying background compiled by Abdul Latiff, Ahmed Razman Amin Noordin, Che Omar, and Harjito (2005) from 143 respondents in Malaysia, it was found that 68.5% from a total 143 respondents paid their income taxes by instalments. The findings demonstrated that taxpayers required longer terms of payment in line with the financial burdens. In the mixed-method research by Loo et al. (2009), it was found that financial constraints had a more direct and significant influence on self-employed taxpayers' tax compliance behaviour. Additionally, Loo et al. (2009) recorded that financial constrain affected taxpayers' attitudes. However, lesser information was present regarding the financial impact on taxpayers' control behaviour.

Bidin and Md Idris (2009) found that financial ability was one of the significant factors influencing the intention of tithe (zakat) payment, suggesting that proactive actions should be taken to lessen the tithe payment burden if it was paid in one lump sum payment. The study by Bidin and Md Idris (2009) was in line with the previous study by Hite (1997), who mentioned that it is economically advantageous for taxpayers with tax dues to defer their interest-free tax payments. Furthermore, IRAS has introduced the electronic tax paying system, which allows taxpayers to pay 12-month instalments with an interest-free plan through direct bank account deductions and options for lump-sum payments through telephone calls, debit cards, service counters, or internet banking. This action attracts three-fifth of the individual taxpayers (Bird & Oldman, 2000).

Although Bidin and Md Idris (2009) included financial ability in tax payment as its perceived behavioural control measurement, lesser information was present regarding the studies on the ability to pay as one of the dimensions under the antecedent of perceived behavioural control. Therefore, limited financial resources would restrain individual taxpayers, particularly the employment income earners, causing them to reconsider voluntarily declaring their income tax on time. Despite the ability of these salaried individual taxpayers to pay, they may also consider making instalment payments to avoid limitation in monthly basic living expenses.

2.7 Chapter Summary

Tax compliance is an interesting topic of research in any country, which are either developed or developing countries. Given that each country implements its own strategies, the tax laws and tax compliance determinants of each country vary. In line

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with the technology advancements, the intention to comply using technologies creates advantages in terms of time, cost, error reduction, and convenience to the users. However, other factors lead to voluntary tax compliance behavioural intention among individual taxpayers. The behavioural models and technology adoption models were carefully and thoroughly reviewed for parsimonious predictive power. Hence, past literature works offered an understanding of voluntary tax compliance behavioural intention and technology acceptance determinants, which resulted in the decision of underpinning theory used.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, the discussions on the study methodology are presented in line with the literature review from the previous chapter. This discussion is based on a specific structure. To illustrate, it begins with a proposed research framework development, followed by a research design, population sample, instrument and measurement, validity, reliability, pre and pilot tests, data collection procedures, non-response bias, and data analysis. This chapter is concluded with a chapter summary.

3.2 Research Framework Development

Based on the problem statements and reviews of past literature, hypotheses were formulated according to the research questions arising from the problem statements. As shown in Figure 3.1, several steps were involved in developing the research model. Quantitative study was performed in the generalisation of the research model. Hypotheses relationships were proposed based on the finalised research model, while measurement constructs were proposed based on validated extensive literature review. Therefore, provisional questionnaire was designed to examine these hypotheses through pre-tests and pilot tests for feedbacks and fine-tuning of the questionnaires. The indicators used in the pilot test were obtained from literature works, which included the respondents' demographic details for general use, classifications, and other analyses.

The research questionnaire was structured using the seven-point Likert Scale. Accordingly, the development of hypotheses and questionnaires design discussions is presented in the following sections.

In selecting the appropriate research model, the basic criteria include the necessity of being parsimonious and having the predictive capability, in which the development of conceptual frameworks includes the strength and capabilities of theories to predict and enhance the individual adoption level (Taylor & Todd, 1995a). Past research works proposed the application of various theories in the examination of behavioural intention, such as the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975) to explain the individual's behavioural intention, Technology Acceptance Model (TAM) (Davis, 1989) to predict the computer and common information system adoption, Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) to provide the core determinants of technology acceptance and usage behaviour, and Social Cognitive Theory (SCT) (Bandura, 1971) to predict the ability of individuals to overcome and understand their capabilities in environmental influences (external or internal) to achieve their targeted level of behaviour. These various theories provide a basis of similarities and differences between the studies of a vast number of theories of technology usage intention.

Given that the majority of taxpayers in Malaysia uses the e-filing system as their compliance preference mode towards income tax form submission, it is important to include the understanding of e-filing system perceptions towards voluntary tax compliance behaviour intention among individual taxpayers. A meta-analysis suggested that perceived benefits, such as perceived usefulness and perceived ease of

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use, are the primary factors that influence end-users to adopt an application, followed by the level of ease and the level of difficulties in achieving these benefits. To illustrate this point, end users' tolerance level is high when the functions take place, although this is not the case when these functions are not needed (Mahmood, Burn, Gemoets, & Jacquez, 2000). Therefore, it is also vital for this quantitative study to develop an understanding regarding the use of e-filing for voluntary income tax filing purposes.

Based on the discussion in the literature review chapter regarding the problem statements, the following research framework was proposed in this study, including an extended DTPB model as the underpinning theory and other independent variables to examine whether the variables significantly affected the voluntary tax compliance behavioural intentions. The dependent variable was the voluntary tax compliance intention behaviour, which was influenced by attitude, subjective norms, and perceived behavioural control as the independent variables. The DTPB model was proposed as it presents stronger explanatory power than the original TPB model with its decomposed multidimensional constructs (Md Husin & Ab Rahman, 2016) in the assessment of behavioural intention in an information technology environment.

The research framework (Figure 3.1) was adapted from the study by Taylor and Todd (1995c), which was conducted in organisational technology usage. Given that this study was performed on the technology usage by individuals, certain dimensions were not included in this research framework. The dimensions of superior's influence and resource facilitating conditions were excluded, along with superior's influence as this study focused on individual's influence instead of the organisational settings. Furthermore, the role of the superior's instructions or command would lean more

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towards organisational processes. The segregation of superior influences from peer influences may induce IS acceptance in organisational settings, although it may not produce a significant explanatory power impact in the personal usage context (Bhattacherjee, 2000). The resource facilitating conditions were excluded with the assumption that most individuals have computers and printers at their expense. In this era of information technology, most of the working individuals would gain easy access and technology peripherals at their expense, particularly the individuals who reside in Klang Valley.
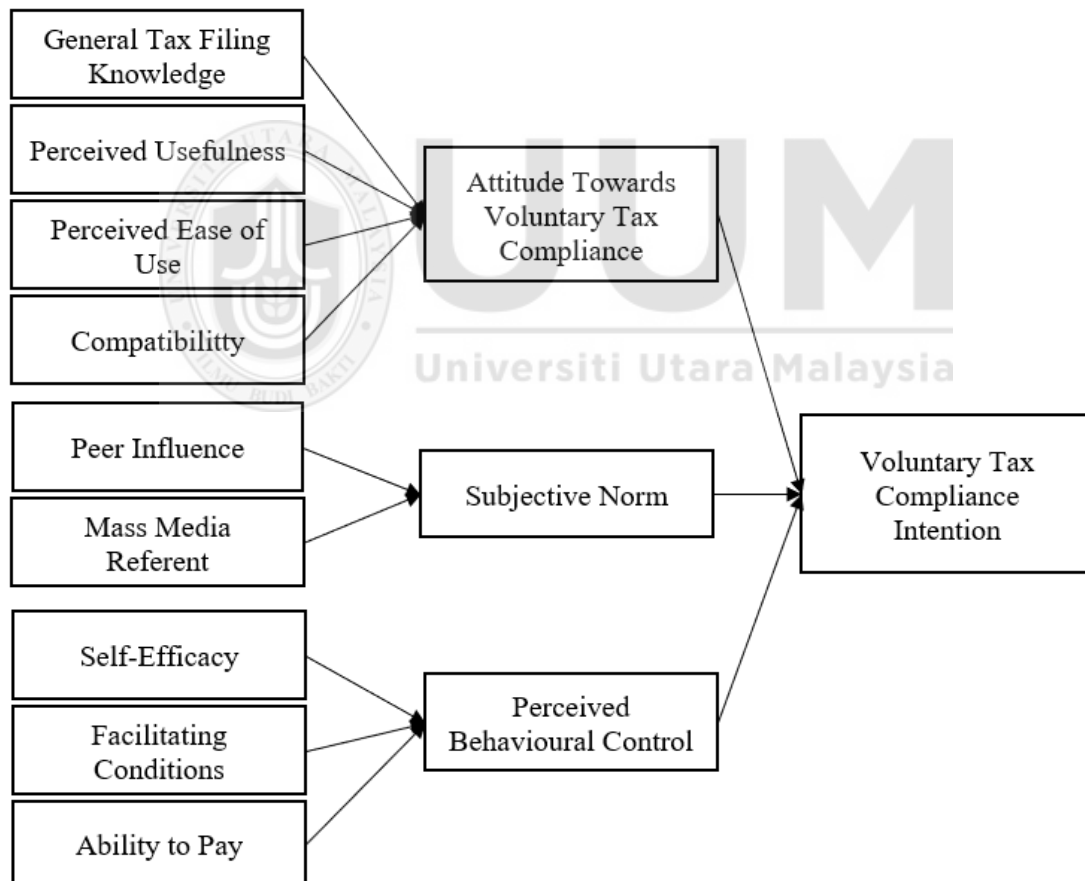
Figure 3.1:
Research framework

In view of the objectives in this research, three additional dimensions were included in this study. General tax filing knowledge, mass media referent, and ability to pay were extended for this purpose. Furthermore, the original DPTB model did not include these dimensions although several past studies had tested the dimensions as unidimensional constructs. In line with the earlier discussion, the following hypotheses were formulated in this study.

3.3 Hypotheses Development

The research framework of salaried taxpayer's compliance intention was developed to test the model for analyses and improve understanding. In accomplishing this objective, 12 hypotheses were developed to evaluate the model validity and the proposed relationship strength. These hypotheses were developed with reference to prior literature works and the findings (as per Chapter 2 review) to answer the research questions by testing the research model (Figure 3.1). In summary, the research objectives, research questions, and hypotheses were interrelated in explaining the voluntary tax compliance intention among salaried taxpayers in Malaysia.

3.3.1 Relationship between attitude and voluntary tax compliance intention

Attitude has been applied in various technology adoption and behavioural studies. Provided that attitude refers to the favourable or unfavourable appraisal of an individual's behaviour (Ajzen, 1991), this factor has been used in many theories including TRA, TPB, DTPB, and TAM. As suggested by Ajzen (1991), attitudinal belief affects the individual's behavioural intention, as demonstrated in the study by Taylor and Todd (1995c). Numerous studies of electronic government and public

administration included in the field of taxation supported the attitude and behavioural intention relationship (Hung et al., 2013, 2006; Shyu & Huang, 2011; Zhang, Xu, & Xiao, 2014).

Given the taxpayers' belief that the online tax filing system offers the advantages of timeliness and convenience, the attitude towards tax filing becomes positive (Lu & Ting, 2013). The belief in the efficiency and convenience of tax filing through electronic tax filing systems, such as e-filing, would enhance the attitude of individual taxpayers to file their income tax forms electronically. Although some studies presented insignificant results including the studies by Venkatesh et al. (2003) and Abdul Aziz and Md Idris (2016), past studies on the electronic tax filing system adoption proved that attitude had a significant positive influence on intention (Hastuti et al., 2014; Hung et al., 2006; Rana, Dwivedi, Lal, & Williams, 2015). Therefore, the examination of attitude impacts is crucial especially in the perspective of mission-driven electronic government (Hung et al., 2009) and voluntary tax compliance behavioural intention via e-filing system. In addition, attitude is vital in predicting behavioural intention, particularly in the perspective of electronic government (Hung et al., 2013). Furthermore, Mohdali and Pope (2014) highlighted that Malaysians strongly support IRBM mission towards voluntary tax compliance with their strong positive tax compliance attitude. Following the acknowledgement of the importance of attitude in behavioural intention research, particularly the voluntary tax compliance intention via e-filing system, the following hypothesis was formulated.

H1a: Attitude is positively related to voluntary tax compliance intention

3.3.1.1 Relationship between general tax filing knowledge and attitude towards voluntary tax compliance intention

According to Fallan (1999), tax knowledge refers to the combination of tax rules information and financial knowledge for taxpayers to determine economic consequences. In any tax compliance studies, tax knowledge had a significant influence on compliance behaviour (Mansor et al., 2004; Palil, 2010). Previously, Loo, McKerchar and Hansford (2009) found that the factor of tax knowledge was an influential determinant of taxpayers' compliance behaviour. Prior studies also highlighted that tax knowledge increased tax compliance levels (Andreas & Savitri, 2015; Kirchler, Niemirowski, & Wearing, 2006; Saad, 2012). The positive attitude from taxpayers indicated sufficient tax knowledge of the Malaysian tax system related to documents, income category, and filing of tax return obligations (Chan et al., 2017).

According to Saad (2012), the tax knowledge acquired by taxpayers will enhance voluntary compliance. Taxpayers may depend on other parties including tax agents, family members, or friends to file income tax returns on behalf of them. Andreas and Savitri (2015) found that tax knowledge had an impact on tax compliance. Although tax knowledge is the key determinant of tax compliance behaviour, a 'layman' taxpayer may not understand the technicality of the terms stated by the tax laws. However, the technical term of tax laws could be better explained and understood by a normal 'layman' taxpayer if the tax knowledge is disseminated using simple terms that are easily understandable and interpreted. Moreover, Mohd Tallaha et al. (2014) suggested the use of more direct questions on tax knowledge in future research works. Therefore,

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was predicted that general tax filing knowledge would influence the attitude in complying with tax-filing requirements.

H1a2a: General tax filing knowledge is positively related to attitude towards voluntary tax compliance intention.

3.3.1.2 Relationship between perceived usefulness and attitude towards voluntary tax compliance intention

Prior studies have demonstrated that perceived usefulness is the main factor of new technology (Bhattacherjee, 2002; Schepers & Wetzels, 2007). It was further highlighted by Bhattacherjee (2002) that perceived usefulness is the willingness of an individual to transact a particular system. Gefen and Straub (2000) supported the previous findings by Davis, Bagozzi, and Warshaw (1992) that in IT adoption, extrinsic motivation has more significance compared to intrinsic motivation, where perceived usefulness is the main belief factor affecting the intentions to use IT.

As stated by Taylor and Todd (1995a) suggested that while perceived usefulness would be significant for experienced users, it was also found that inexperienced users regarded perceived usefulness as the most significant intention predictor. Meanwhile, experienced users placed lesser weightage on perceived usefulness. It was also suggested that inexperienced users rely primarily on perceived usefulness rather than the control information towards the formation of intentions (Taylor & Todd, 1995a). Given that the e-filing system has taken place for more than 15 years, the users' experience would perceive the usefulness of the e-filing system.

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Several tax-related studies obtained similar significant results of perceived usefulness on the attitudes of taxpayers (Alryalat et al., 2015; Lu et al., 2010; Lu & Ting, 2013; Pantow et al., 2016; Perangin-angin et al., 2016; Sondakh, 2017; Zahid & Din, 2019). Hung et al. (2006) suggested that tax administrators emphasise the perceived usefulness of the system to increase the positive attitude towards the use of e-filing systems in voluntarily complying with tax laws. Lu et al. (2010) and Lu and Ting (2013) showed similar results with Taiwan taxpayers, in which the perceived usefulness demonstrated a positive significant relationship with attitudes. Similarly, studies in Indonesia by Pantow et al. (2016) and Perangin-angin et al. (2016) found the same effect of perceived usefulness on taxpayers' attitude. Previous results indicated the significance of perceived usefulness in this study. Based on the above arguments, the following hypothesis was proposed.

H1a2b: Perceived usefulness is positively related to attitude towards voluntary tax compliance intention.

3.3.1.3 Relationship between perceived ease of use and attitude towards voluntary tax compliance intention

To gain the extrinsic value from the use of IT, perceived ease of use was addressed to measure the ease of learning on the usage of the IT (Gefen & Straub, 2000). Gefen and Straub highlighted various levels and effects of perceived ease of use, which is a dynamic construct depending on the extrinsic or intrinsic type of use of IT. While Sipior et al. (2011) stated that the perceived ease of use received less empirical support compared to perceived usefulness, it was then found that perceived ease of use was a significant factor of e-government usage compared to perceived usefulness that was

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found to be insignificant in digitally disadvantaged households. In addition, Indarsin and Ali (2017) found that perceived ease of use had a positive effect on attitude towards the use of the mobile app in Indonesia. Several taxation studies recorded the significance of perceived ease of use on attitudes (Lu et al., 2010; Lu & Ting, 2013; Pantow et al., 2016; Sondakh, 2017). In contrast, other studies found the insignificance of perceived ease of use towards attitude (Carlet, 2015; Kala et al., 2017; Perangin-angin et al., 2016; Yadav et al., 2016). The mixed results by Karaiskos et al. (2012) suggested that more research works are conducted on ease of use. Although numerous taxation studies found the significance of perceived ease of use on attitude, the mixed findings of past results indicated the need for further examinations.

Experience plays an important role in the factors including the perceived ease of use and perceived usefulness, where individuals without experience may tend to focus on the ease of use, while the individuals without experience may have overcome the anxiety about ease of use that they place more focus on perceived usefulness (Taylor & Todd, 1995a). As stated by Taylor and Todd (1995a), the factor of perceived ease of use would be significant for inexperienced users and digitally disadvantaged individuals (Sipior et al., 2011). Nevertheless, with the advancement of technology and internet usage, it would be noteworthy to gauge the level of perceived ease of use among technology users regarding the electronic filing of income tax forms via e-filing system. Hence, the relationship of perceived ease of use may affect the individual's taxpayers' attitude towards voluntary tax compliance behavioural intentions.

H1a2c: Perceived ease of use is positively related to attitude towards voluntary tax compliance intention.

3.3.1.4 Relationship between compatibility and attitude towards voluntary tax compliance intention

Carter and Bélanger (2005), who integrated TAM and IDT model, found that compatibility influenced the public's intention to use the government electronic services. Similarly, Hung et al. (2006) suggested that tax administrators emphasise the compatibility of the system to increase the positive attitude towards the use of e-filing system in complying with tax laws voluntarily. In other studies, compatibility was found to have a positive influence on behavioural intention, such as electronic logistic system (Tung, Chang, & Chou, 2008), e-voting (Alomari, 2016), and adoption of e-government services (Rana, Dwivedi, Lal, Dwived, & Lal, 2015).

The compatibility of software contributes to ease among taxpayers to interact with tax administrators for tax declarations, payments, or obtaining information electronically either from home or offices (OECD, 2012). Furthermore, compatibility in previous studies was found to be consistently significant in technology adoption (Agarwal & Prasad, 1998; Tornatzky & Klein, 1982). It was also recorded with a significant impact on attitude for taxation studies (Hung et al., 2006). Meanwhile, several studies offered insignificance results, where compatibility did not have any impact on attitude (Agarwal & Karahanna, 1998; Carlet, 2015; Cheng, Hung, Tsai, & Chen, 2016; Lin, Fofanah, & Liang, 2011). Hence, compatibility among individual taxpayers regarding their attitude towards voluntary tax compliance behavioural intentions led to the following hypothesis.

H1a2d: Compatibility is positively related to attitude towards voluntary tax compliance intention

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3.3.2 Relationship between subject norm and voluntary tax compliance intention

The decomposition of subjection norm into superior influence and peer influence by Ho et al. (2011) and Taylor and Todd (1995b, 1995c) justified the behaviour in organisational settings. In these settings, the peers might oppose a specific behaviour, while the superiors may tend to be strongly influential in the behaviour. The subjective norm may consist of several groups, including family, friends, superiors, and colleagues, and might appear relevant. However, considering the context of this study that emphasises the individual's voluntary tax compliance behaviour, the element of peer influence and mass media referent is more relevant. The influence of personal referents such as family, friends, or colleagues may encourage voluntary tax compliance behaviour via an e-filing system. In a tax compliance behaviour study, Kirchler et al. (2008) stated that the group associated with the taxpayer influenced the taxpayer's tax compliance behaviour.

Barki and Hartwick (1994) and Venkatesh and Morris (2000) found the significance of subjective norms in a mandatory environment. Similarly, Mathieson (1991), Venkatesh and Morris (2000), Yu, Ha, Choi, and Rho (2005), and Fu et al. (2006) argued that TAM overlooks the aspect of subjective norms on technology adoption. Given that it is mandatory for individual taxpayers to comply with the submission of the income tax form, the use of an e-filing system to file income tax forms is on a voluntary basis. The advantages of filing income tax form through e-filing provide the ease to comply with tax laws. However, some users may need assistance from the individuals who they could refer to when facing filing income tax forms electronically.

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In the past, several studies found subjective norm to be insignificant towards intention (Lesmana, Panjaitan, & Maimunah, 2018; Marthadinasyah, Meutia, Mukhtaruddin, & Saputra, 2014; Sanubari, 2020; Tarmidi & Waluyo, 2017; Wu & Chen, 2005). Nevertheless, numerous taxation studies have proven the significance of subjective norm on intention (Al-Zaqeba & Al-Rashdan, 2020b; Bhutta et al., 2019; Lu & Ting, 2013; Maharani et al., 2017; Marandu et al., 2015). The usage of mass media as referents serves as reminders and offers better understanding of tax laws and regulations towards voluntary tax compliance in the societal circle. Hence, in times of confusions regarding the tax compliance matters, individual taxpayers may rely to their closest individuals for answers, while additional information and confirmations may be obtained from the mass media that provide the accuracy of the information. Following the above discussions, the below hypothesis is proposed.

H1b: Subjective norm is positively related to voluntary tax compliance intention

3.3.2.1 Relationship between peer influence and subjective norms towards voluntary tax compliance intention

According to Ajzen and Fishbein (1980), pressure from closest individuals including friends and family, who could influence the decision making of an individual, is defined as peer influence. Subjective norm TPB (Ajzen, 1985) is similar to social influence in UTAUT by Venkatesh et al. (2003) where a person believes that other people's opinions on whether he or she should or should not perform an action would influence his or her behaviour. Similarly, Sykes, Venkatesh and Gosain (2009) highlighted the social influences in the primary external pressures used by their peers and superiors to impact the individual's system usage perceptions.

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Key users, which are newly acquired technical expertise with strong functional knowledge, are instrumental in providing motivation when others may choose to criticise (Bagchi, Kanungo, & Dasgupta, 2003). In the studies of individual adoption and information technology usage, the relevance of social networking was expected to be beneficial in the implementation of a complex system. The feature variety and complex user interfaces could potentially alter workflow processes, which require extra effort by individuals to operate the system. In this case, the individuals would most likely depend on their peers and superiors to assist them in the efficient use of the system (Sykes et al., 2009). Eckhardt et al. (2009) found the significant difference in subjective norms of peer groups, including the adopters and non-adopters on technology adoption. Therefore, the understanding of the behaviour of individual's technology adoption decision making, particularly in terms of the subjective norms, would be noteworthy.

While Morris, Venkatesh, and Ackerman (2005) reported that the demographic variables do not have additional impact beyond the identified behaviour determinants, Braithwaite, Smart, and Reinhart (2006) stated that the reliance role of family and friends towards compliance requires further consideration. Furthermore, Hung et al. (2006) suggested that tax administrators endorse famous artists as a marketing strategy in encouraging e-filing system adopters to enhance peer influence on others and comply with tax laws voluntarily. Numerous studies recorded the significance of peer influence in subjective norm (Azam & Qiang, 2014; Dahiya & Gayatri, 2017; Glegg et al., 2013; Md Nor & Pearson, 2008; Ndlovu et al., 2020; Sadaf & Gezer, 2020; Sadaf et al., 2012). Hence, the interactions among individual taxpayers regarding the voluntary tax compliance behavioural intentions lead to the following proposed hypothesis.

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H1b3a: Peer influence is positively related to subjective norms

3.3.2.2 Relationship between mass media referent and subjective norm towards voluntary tax compliance intention

Tax information is an important factor of tax compliance. Information from the mass media, especially those that are reliable and available through the internet at any places or time would be sought for referencing. Mass media marketing could be employed in advertising successful adopters' experience to attract non-adopters while retaining and increasing the loyalty among online tax filing system users (Hung et al., 2006) towards voluntarily compliance with tax laws. Besides the taxpayers' right to know, the tax information disclosure could also be an inducement for further tax compliance (Hyun, 2006). The information distributed through mass media is effective by employing a two-pronged approach, where the solutions through mass-media are addressed to all types of marginal taxpayers by providing multi-layered answers to a complex diverse taxpayer population (Branham, 2009). Additionally, with the increasing connectivity of information society, it is important that information literacy programmes address the importance of each valuable member (Kim, Sin, & Tsai, 2014).

Hung et al. (2006) recorded that the external influence, with the items questioning the influence of mass media towards online tax filing adoption, had significant influence on the adopters, although it was not the case for the non-adopters. The authors suggested the use of effective user's guidance and the internet community to share users' experience while promoting the e-filing system services to increase the number of voluntary tax compliance (Hung et al., 2006). In addition, Hung et al. (2006) suggested

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that tax administrators endorse famous artists as a marketing strategy in encouraging e-filing system adopters to enhance peer influence on others and comply with tax laws voluntarily. Although previous literature works have proven the significance of mass media referent as a method of circulating information and creating awareness among the societal norm, mass media referent was rarely tested in the context of voluntary tax compliance intention. Notably, numerous studies found a significant relationship between mass media referent and subjective norm (Ayinde & Echchabi, 2012; Bhattacherjee, 2000; Gunther et al., 2006; Md Husin & Ab Rahman, 2016; Mutz, 1989; Sadaf & Gezer, 2020; Zaman et al., 2021). Hence, studies have demonstrated that mass media referent has a positive impact on the subjective norm (Md Husin & Ab Rahman, 2016; Md Husin et al., 2016). The above findings led to the following proposed hypothesis.

H1b3b: Mass media referent is positively related to subjective norms
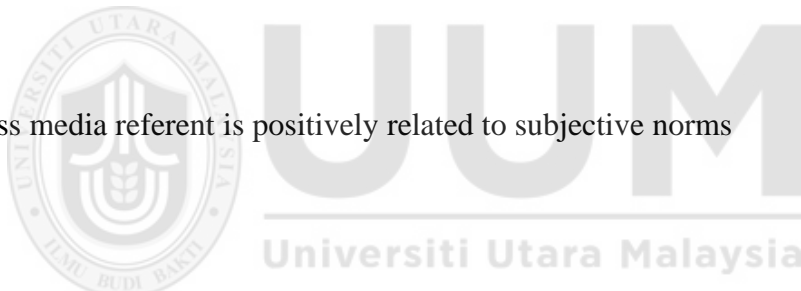
3.3.3 Relationship between perceived behavioural control and voluntary tax compliance intention

According to Ajzen (1991), the intention to perform a behaviour would be stronger with higher perceived behavioural control. Perceived behavioural control refers to the degree of control, which an individual perceives that he or she may have to perform a particular behaviour (Ajzen, 1991; Beck & Ajzen, 1991; Bobek & Hatfield, 2003). Besides the barriers and impediments towards engaging in a behaviour, the individual's belief of resource and opportunity availability is the fundamental factor of perceived behavioural control (Alleyne & Harris, 2017). Thus, it is theorised that perceived behavioural control is a determinant of voluntary tax compliance intention.

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Several tax-related studies found that perceived behavioural control had positive significant influence on behavioural intention. In the study on zakah payment by Bidin and Md Idris (2009), it was found that perceived behavioural control and intention to comply with zakah payment was significantly related. Meanwhile, Smart's (2013) study on tax compliance behaviour in New Zealand found that perceived behavioural control had a significant influence on behavioural control. In the studies on e-filing system adoption, perceived behavioural control was found to be the vital determinant that influenced the intention to use the e-filing system (Ghazali et al., 2014). Thus, several tax-related studies recorded a significant influence between perceived behavioural control and behavioural intention (Alleyne & Harris, 2017; Marthadinasyah et al., 2014; Trivedi et al., 2005). Hence, the following hypothesis was proposed.

H1c: Perceived behavioural control is positively related to voluntary tax compliance intention
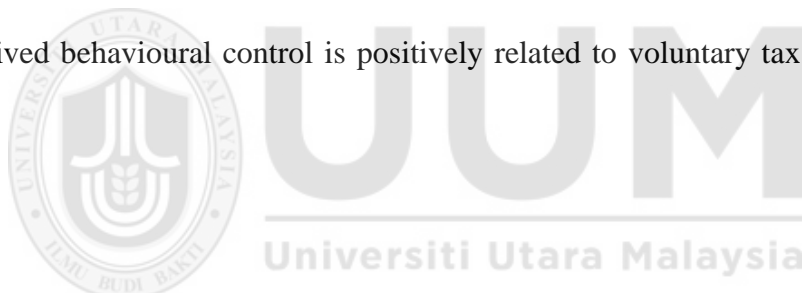
3.3.3.1 Relationship between self-efficacy and perceived behavioural control towards voluntary tax compliance intention

Bandura (1997) identified a person's opinion on one's ability in performing a certain task or work as self-efficacy. The individuals with high self-efficacy have high tendency to perform certain jobs or works. In computer usage, Davis et al. (1989) described self-efficacy as the degree of individual's ability to use the computer. Accordingly, Hung et al. (2006) stated that the past research works by Bhattacherjee (2000), Bandura (1986), Fishbein and Ajzen (1975), and Taylor and Todd (1995c) highlighted individual's judgements about ability, familiarity, self-reliance, and possibilities in terms of the organisation and application of required action towards the

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use of a particular system with an indirect effect and the perceptions of their behavioural control towards the usage of system. Hence, the researchers recorded the significance of self-efficacy as a vital determinant of technology usage.

Hung et al. (2006) suggested that tax administrators focus on the reduction of perceived behavioural control over the e-filing system usage by training and educating the taxpayers towards increasing the users' self-efficacy in filing income tax form electronically to comply with tax laws voluntarily. Furthermore, Keramati, Sharif, Azad and Soofifard (2012) found that self-efficacy had positive significant influence on perceived behavioural control on their E-Tax payment system. Past studies recorded that self-efficacy was an important determinant, particularly in terms of the electronic-based tax filing system usage (Hastuti et al., 2014; Hsu & Chiu, 2004; Hung et al., 2006). Based on the above arguments, the following hypothesis was proposed.

H1c4a: Self-efficacy is positively related to perceived behavioural control

3.3.3.2 Relationship between facilitating conditions and perceived behavioural control towards voluntary tax compliance intention

Facilitating condition is considered one of the core determinants of information technology adoption (Venkatesh, Morris, et al., 2003; Venkatesh, Thong, et al., 2012). According to Venkatesh et al. (2010), facilitating condition refers to usage environment evaluation by users, which was theorised by Taylor and Todd (1995c) and Venkatesh et al. (2003) to have a direct influence on information system usage intention and use of the information system. In mobile health adoption intention, Zhang et al. (2014)

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found that facilitating condition, including attitude and subjective norm, was the significant determinant of m-health adoption intention.

Fu et al. (2004) stated that the choice of tax filing method by individual taxpayers depends on the available technology resources and facilitating conditions (Teo & Wong, 2005), which should be easy to use (Zakaria et al., 2009). This statement was in line with Fu et al. (2004) and Teo and Wong (2005). It was highlighted by Venkatesh et al. (2010) that with no supporting resources, the citizens may not be able to use the services, while the facilitating condition most likely serve as the barrier to the use of the e-government by citizens. In the study by Connolly et al. (2010) on the Irish revenue online services, it was mentioned that ease of completion construct was included in the survey for the purpose of understanding the tax filing and collection system. In this case, the ease of completion refers to the ease of completing tax returns and making payments. Notably, this construct is interesting as the difference in the physical features of mobile devices may be the vital indicator (Kim et al., 2007), where the taxpayers may perceive the value of using e-filing through the ease of completing the form.

The importance of facilitating condition was studied in the field of e-government services (Abdul Aziz & Md Idris, 2012a; Ambali, 2009; Lau, 2004; Lim, Masrom, & Din, 2013; Rana, Dwivedi, & Williams, 2015), e-learning (Ibrahim, Ahmad Shidki, Wan Salihin, & Fahmi Zaidi, 2015; Maldonado, Khan, Moon, & Rho, 2011; Masa, Tarhini, Mohammed, & Maqableh, 2016), Computer Assisted Audit Techniques (CAAT) (Janvrin, Lowe, & Bierstaker, 2008; Shamsuddin, Rajasharen, Maran, Mohamed Feyas, & Punnir, 2015), and numerous e-filing studies (Abdul Aziz & Md Idris, 2012b, 2014; Alibraheem & Abdul-Jabbar, 2016; Ambali, 2009; Fu et al., 2004;

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Hung et al., 2006; Ibrahim, 2013). Facilitating condition was also highlighted in the past studies of mobile adoption intention, particularly the area of mobile government (Hung et al., 2013; Shareef, Dwivedi, Stamati, & Williams, 2014), health (Yuan, Ma, Kanthawala, & Peng, 2015), and mobile services (Koivumäki, Ristola, & Kesti, 2008; Shafinah, Sahari@Ashaari, Sulaiman, Mohd Yusoff, & Mohd Ikram, 2013).

A previous study by Tan et al. (2005) stated that one of the key aspects of business process efficacies is the effective utilisation of IT to enhance public service delivery efficiency. One of the strategies to achieve the efficiency of tax administration and compliance is the facilitation of e-filing (Lai & Choong, 2008a). As highlighted by Singh and Sharma (2010), tax administrative efficiency is vital in individual taxpayers assesses attitude. The benefits of e-filing, as highlighted by Santhanamery and Ramayah (2015), include the reduction of processing time that saves time and proves convenience, accuracy, security, and cost-effectiveness, resulting in increased efficiency and productivity.

The main purpose of facilitating conditions is the removal of all barriers of use (Lim et al., 2014), where the necessary knowledge and skill are obtained through resources accessibility to support the use of e-filing system requirements (Fu et al., 2006; Schaupp, Carter, & McBride, 2010a). Previously, Fu et al. (2006) argued that e-filing will not be used in the absence of facilitating conditions and a low level of technical support. Hence, it would be noteworthy to examine the facilitation of online compliance services, which provide individual taxpayers with ease of completing individual income tax returns through an e-filing system. Based on the previous studies, including those by Taylor and Todd (1995b), Venkatesh et al. (2003, 2012), and Zakaria et al. (2009), facilitating

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conditions and the ease of completion in the study by Connolly et al. (2010) showed similarities where the infrastructures offered ease of completing the system use. Furthermore, the meta-analysis on e-government adoption studies by Rana et al. (2013) found that facilitating conditions were not used regularly. Therefore, the technical support, whether online or through physical service counters, would facilitate the individual taxpayers to submit their income tax form voluntarily (Lim et al., 2014). Based on the arguments, the following hypothesis was proposed.

H1c4b: Facilitating conditions are positively and significantly related to perceived behavioural control.

3.3.3.3 Relationship between the ability to pay and perceived behavioural control towards voluntary tax compliance intention

Past studies found that the willingness of income declaration was based on the impact of sunk costs (Cullis et al., 2012; Kirchler et al., 2009). Individual taxpayers may encounter true tax liabilities, which could lead to the decision of not filing the income tax return form. If the taxpayers know the amount of tax to be paid but do not have sufficient funds to pay the tax in one lump sum, they may decide to delay the declaration of taxable income or not declaring. Previous study also found that taxpayers were more responsive and willing to conduct tax payments at a fast rate with the provision of the updated financial information (Tayib, Coombs, & Ameen, 1999). In addition, a high degree of difficulty was present in imposing and collecting taxes at any time and place, given that many people do not prefer to pay taxes (Alma et al., 2005).

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Alm et al. (2011) stated that when facing with uncertain tax liabilities and the possibility of overpayment or audit detection, which occurred with the penalty for underpayment, taxpayers may decide to not file an income tax return or simply make a rough report regarding the expected tax liability. Furthermore, it was highlighted that the ability to pay accurate taxes is one of the vital factors contributing to tax compliance behaviour (Helhel & Varshalomidze, 2015). Helhel and Varshalomidze (2015) suggested that voluntary tax compliance could be enhanced when the issue of the ability to pay is solved. Hence, this study posited that with the ability to manage funds and pay taxes, a voluntary declaration of taxes can be made. Based on the arguments, the following hypothesis was proposed based on the behavioural control factor.

H1b4c: Ability to pay is positively and significantly related to perceived behavioural control

3.4 Research Design

The principles of the positivists' approach were adopted in this study to perform the study based on the quantitative research paradigm. According to Creswell (2014), positivists are based on the deterministic philosophy in which the probable causes determine the outcomes or effects. In the positivists' studies, examination was made on the variables consisting of hypotheses and research questions based on small discrete set of deductive ideas. To illustrate this point, the research began with a theory where data are gathered, whether it supports or contradicts the theory and revisions, or whether additional tests are conducted if necessary (Creswell, 2014). Research designs refer to types of examinations, which use specific approaches including the qualitative, quantitative, and mixed-method that provides procedures with specific direction in

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research design (Creswell, 2014). Two types of quantitative research designs are present, such as the survey research and experimental research design. Survey research was used to study a sample of population by presenting numeric descriptions of the population trends, attitudes or opinions (Creswell, 2014). Meanwhile, experimental research including true experiments and quasi-experiments were employed to determine whether a specific treatment influences outcomes (Creswell, 2014).

This study utilised the quantitative method, where surveys were distributed among individual taxpayers with employment income. The quantitative method was preferable as it provides higher level of validity that could be generalisable and extendable in other studies. The use of quantitative surveys in measuring compliance attitudes contributes to the greatest interest as the results could be communicated towards influencing social norms (OECD, 2010b).

3.5 Operation Definition

This study consisted of nine dimensions with three independent variables towards the influence of one dependent variable. Based on the objective of this study, voluntary tax compliance intention was described as the willingness to comply with tax laws through the submission of income tax return form via e-filing system before the due date. Hence, the dependent variable was referred to as the voluntary tax compliance intention. The independent variables represent the attitudes with the dimensions of general tax filing knowledge, perceived usefulness, perceived ease of use and compatibility, the subjective norm with dimensions of peer influence and mass media referent, and

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perceived behavioural control with dimensions of self-efficacy, facilitating conditions, and ability to pay.

A seven-point Likert scale was used on all the constructs, given that the validity and reliability could be improved through the use of seven-point Likert scale (Churchill & Peter, 1984). Based on the t-test result, Lewis (1993) found that in comparison to the five-point Likert scale, seven-point Likert scale offered a stronger correlation. Furthermore, Preston and Colman (2000) stated that based on several validities, reliability, and discriminating power indices, four-point Likert scales and below showed poor performance. However, the performance was significantly higher in the response categories scales of up to seven. The test-retest reliability decreased for over 10 response categories scales, in which 10-point scales were preferred according to the nine-point and seven-point scales (Preston & Colman, 2000), although the five-point scales were not validated. Finstad (2010) found that seven-point Likert scales were the more accurate measurement of respondents' true evaluation, which was more suitable for electronic distribution. Hence, the seven-point scale was preferred in this study, which was in line with Krosnick and Presser's (2010) review that suggested the many cases where seven-point scales may provide optimal result. The measurement items were measured using interval scale (Kumar, Talib, & Ramayah, 2013). It is important for the instrument scales to display significant psychometric properties, such as the scales of DTPB constructs that were assessed in numerous studies and found to display satisfactory measurement properties (Parameswaran, Kishore, & Li, 2015).

The seven-point scales ranging from 1 = strongly disagree to 7 = strongly agree were used in this study to indicate agreement and disagreement level of the given statements.

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The seven-point Likert scale was used in many of the studies on e-government (Bélanger & Carter, 2008; Chu et al., 2004; Hussein et al., 2011; Rana & Dwivedi, 2015; Rana, Dwivedi, Williams, & Weerakkody, 2015), particularly in the area of online tax filing (Azleen et al., 2008; Barbara et al., 2016; Che Azmi & Aziz, 2015; Chen et al., 2015b; Fu et al., 2004, 2006; Lu et al., 2010b; Saliza & Kamil, 2015). Therefore, the following terms would be used repeatedly for the purpose of clarity and ease of understanding of this study. The instruments adopted and adapted from the main DTPB constructs are explained as follows.

3.5.1 Voluntary Tax Compliance Intention

In this study, voluntary tax compliance intention is a dependent variable. Voluntary tax compliance intention is described as the willingness to comply with tax laws through the submission of income tax return form via e-filing system before the due date. In this study, voluntary tax compliance intention was measured using three dimensions to understand the voluntary tax compliance intention by individual taxpayers. The questions employed to measure voluntary tax compliance intention were adapted by Taylor & Todd (1995c). Respondents were asked to indicate their intention to comply voluntarily with tax filing requirements in the future.

3.5.2 Attitude towards Voluntary Tax Compliance

Attitude refers to the individual taxpayers' favourable or unfavourable evaluation or appraisal towards voluntary tax compliance via e-filing system. In this study, attitude was measured using four dimensions to understand the attitude of individual taxpayers towards voluntary tax compliance intention. The questions used to measure attitude

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were adapted from Taylor & Todd (1995c). Respondents were asked to indicate their attitude towards their intention to comply voluntarily in the future.

3.5.2.1 General Tax Filing Knowledge

As e-filing system provides electronic computation of tax liabilities, which include the prefilled amount of monthly tax deductions, it is essential for individual taxpayers to understand the basic tax laws and tax payment requirements including details regarding taxable income, allowable donations, deductible reliefs, and rebate among others. However, in a layman term, the technicality and terminology of tax laws may be insufficient and challenging to understand. More specifically, the taxpayers are required to understand the basic income tax filing requirements prior to the submission of the income tax forms. This study described the general tax filing knowledge as the "*layman's*" basic knowledge of voluntary tax filing requirements without the need to understand the tax liabilities computation, reliefs, rebates, or tax rates.

Based on Saad (2012), the tax knowledge acquired by taxpayers would enhance voluntary compliance. Taxpayers may depend on other parties, such as tax agents, family members, or friends to file income tax returns on behalf of them. However, individual taxpayers with employment income may not be able to engage tax agents and would opt to file their income tax form based on the layman term of tax filing knowledge or inputs from the people who they rely upon to obtain certain tax information. Hence, it is predicted that general tax filing knowledge would influence the intention to comply with tax filing requirements via the e-filing system. According to Andreas and Savitri (2015), a better tax knowledge would enhance increased tax

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compliance. Given this study focus on taxpayers filing intention, the eight enquired items would lean more towards general tax filing knowledge, which referred to tax filing requirements based on the 'FAQ's' posted on IRBM official website. Respondents were asked to demonstrate the influence of general tax filing knowledge on the compliance with tax-filing requirements towards income tax form submission in the future.

3.5.2.2 Perceived Usefulness

The dimension of perceived usefulness is operationalised as the individual taxpayers' belief in the income tax filing method via e-filing system, which could be advantageous in their job performance. In the technology acceptance studies, perceived usefulness is a vital factor influencing the intention to use a system, particularly in the studies of electronic filing of income tax form (e.g., Ambali, 2009; Bojuwon & Obid, 2014; Dorasamy et al., 2010; Hussein & Mohamed, 2011; Kamarulzaman & Anna A. Che Azmi, 2010; Santhanamery & Ramayah, 2013, 2015; Schaupp, Carter, & Hobbs, 2009; Shao, Luo, & Liao, 2015). Therefore, the past studies have demonstrated that users' perceived usefulness of using technology enhances the use of e-filing system with the intention to file income tax form voluntarily. The dimensions used to gauge perceived usefulness, which comprises eight items, were adapted from Taylor & Todd (1995c) regarding the significance of using e-filing system in the preparation of individual income tax filing. Respondents would be asked to indicate the influence of perceived usefulness in using e-filing system to file income tax form voluntarily.

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3.5.2.3 Perceived Ease of Use

The dimension of perceived ease of use is related to the individual taxpayers' perception that filing income tax form voluntarily via e-filing system would be effortless. Past studies indicated that perceived ease of use is a determinant factor of system usage intention especially in the studies of electronic tax filing (e.g., Ambali, 2009; Bhuasiri et al., 2016; Fu et al., 2004, 2006; Hung et al., 2006; Hussein & Mohamed, 2011; Kamarulzaman & Che Azmi, 2010; Punitha et al., 2015; Saliza & Kamil, 2014). Therefore, perceived ease of use is a significant factor of the influence on individual taxpayers' use of e-filing towards voluntary tax compliance intention. The six dimensions were adapted from Davis (1989), which were related to the perceived ease of use of e-filing system towards voluntary tax compliance intention. Respondents were required to indicate the influence of perceived ease of use in using e-filing system towards voluntary tax compliance in the future.

3.5.2.4 Compatibility

Compatibility is a dimension that refers to the consistency of income tax filing method via e-filing system with the existing values, needs, and prior experiences of the individual taxpayers. In the integrated TAM and IDT model by Carter and Bélanger (2005), it was found that compatibility influenced the public's intention to use the government electronic services. Similarly, Hung et al. (2006) suggested that tax administrators emphasise the compatibility of the system to increase the positive attitude towards the use of e-filing system in complying with tax laws voluntarily. Other studies recorded that compatibility had a positive influence on behavioural intention, such as e-voting (Alomari, 2016) and electronic logistic system (Tung et al., 2008).

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Respondents were asked to indicate the influence of compatibility in the use of e-filing system towards voluntary tax compliance in the future through six dimensions adapted from Taylor and Todd (1995c).

3.5.3 Subjective Norm

Subjective norm is the influence of significant referents' perception on individual taxpayers to comply voluntarily with tax laws by submitting income tax form via e-filing system. Several authors indicated that subjective norm construct is an important factor of voluntary tax compliance intention. The normative influence of peers or people who are influential to the individual taxpayers is vital in ensuring the intention to comply with tax filing requirements voluntarily. In line with the past studies, the questions in this study required the respondents to indicate whether their peers or influential people surrounding the individual taxpayers influenced their intention to file income tax return voluntarily. Four dimensions used to measure the subjective norm construct were adopted from the study by Taylor & Todd (1995c). Respondents were then required to demonstrate the influence of subjective norm towards voluntary tax compliance intention in the future.

3.5.3.1 Peer Influence

The dimension of peer influence refers to the influence of individual taxpayers' family members, colleagues, and friends on their voluntary compliance through the submission of income tax form via e-filing system. Previous studies demonstrated that peer influence had a significant impact on the influence on individual taxpayers towards complying with tax laws voluntarily (Ching et al., 2017; Onu & Oats, 2016; Wartick &

Rupert, 2010), particularly with the pressures from family members, colleagues, and other taxpayers (Damayanti, 2012). In line with the past studies, the questions in this study required the respondents to indicate whether their peers or influential people surrounding the individual taxpayers influenced their intention to file income tax returns voluntarily. Six dimensions used to measure the peer influence on subjective norm construct were adapted from study by Taylor and Todd (1995b, 1995c). Respondents were asked to indicate the influence of peer influence on subjective norm towards voluntary tax compliance intention.

3.5.3.2 Mass Media Referent

In this study, the dimension of mass media referent refers to the use of mass media as a tax information referent, which could be informative. It could also serve as a reminder to influence subjective norm towards voluntary compliance intention among individual taxpayers. Nine dimensions were adapted from Md Husin et al. (2016) and Harrison (2009) to gauge the construct.

3.5.4 Perceived Behavioural Control

Perceived behaviour control refers to the individual taxpayers' belief of their ability towards voluntary income tax form submission via e-filing system. Three items were adapted from Taylor and Todd (1995c) to understand the individual taxpayers' perceived behavioural control towards voluntary tax compliance intention.

3.5.4.1 Self-Efficacy

Self-efficacy dimension refers to the individual taxpayers' belief in their capability to exercise control towards voluntary income tax form submission via e-filing system. The dimensions used to gauge self-efficacy comprise six items were adapted from Taylor & Todd (1995c). Respondents were asked to indicate the influence of self-efficacy on perceived behavioural control towards voluntary income tax form submission intention via e-filing system.

3.5.4.2 Facilitating Conditions

The facilitating condition dimension in this study referred to the availability of resources and support the voluntary tax compliance intention through the usage of e-filing system. Notably, IRBM is important in offering the facilities and resources to facilitate the needs and requirements for the convenience of e-filing users. To ensure the ease of voluntary compliance among citizens through the use of electronic filing system, the facilitating conditions should be convenient to use (Zakaria et al., 2009). Facilitating conditions were found to be a significant factor in the information system adoption, particularly to encourage individual taxpayers to use electronic filing system (e.g., Aziz & Idris, 2012a; Bhuasiri et al., 2016; Fu et al., 2006; Ramayah et al., 2009; Zakaria et al., 2009). The facilitation of equipment is insufficient, while the unavailability of the technical support for the use of the systems could discourage taxpayers. Ambali (2009) proposed that online technical support and physical service counters should be made available to encourage the intended tax filers.

In encouraging the taxpayers to use e-filing, the ease of completing filing income tax return form electronically is one of the significant factors influencing taxpayer's usage intention, where mistakes and time loss are minimised. Six dimensions for measuring the facilitating conditions were adapted from Taylor and Todd (1995b), while three dimensions of technical support were adapted from Venkatesh, Chan, and Thong (2012). Respondents were asked to indicate the influence of facilitating conditions towards the intention to comply voluntarily via e-filing system in the future.

3.5.4.3 Ability to Pay

Individual taxpayers with employment income may have limited resources in paying the tax dues as per the assessed and submitted tax liability. The limited financial resources may have impact on the individual taxpayers' decision towards filing income tax return forms on time. Hence, although the individual taxpayers may need to have a deferment in tax payments, financial uncertainties lead to their reluctance to submit income tax forms. In this study, the ability to pay was described as the financial ability to pay according to the self-assessed tax liability. The dimensions used to gauge the ability to pay, which consisted of seven items, were adapted from Bidin and Md Idris (2009). Respondents were asked to indicate the influence of ability to pay on perceived behavioural control towards their intention to comply voluntarily with tax laws in the future. As shown in Table 3.1, the sources of measurement items are tabulated as follows.

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Table 3.1:
Source of Measurement Items

No	Construct	Source		Items
1.	Voluntary Tax Compliance Intention	Taylor & Todd (1995c)	1.	I intend to comply voluntarily with income tax law via e-filing system.
			2.	I intend to comply voluntarily with income tax law via e-filing system by next income tax filing due date.
			3.	I intend to comply voluntarily with income tax law frequently via e-filing system.
2.	Attitude Towards Voluntary Tax Compliance	Taylor & Todd (1995c)	1.	With my general tax filing knowledge, voluntary tax compliance using e-filing system is a good idea.
			2.	With my general tax filing knowledge, voluntary tax compliance using e-filing system is wise idea.
			3.	With my general tax filing knowledge, I like the idea of voluntary tax compliance via e-filing system.
			4.	With my general tax filing knowledge, voluntary tax compliance via e-filing system would be pleasant
3.	General Tax Filing Knowledge	IRBM Official Website FAQ's	1.	It is a criminal offence for not submitting income tax form.
			2.	E-filing system is an electronic mode of filing income tax form through the internet.
			3.	I must provide the latest information on my particulars in the e-filing system.
			4.	I know that I already submitted my electronic income tax form when I receive an electronic confirmation of receipt from IRBM on the computer screen.
			5.	IRBM offers an option to amend my income tax form if I find mistakes in my earlier e-filing submission.
			6.	My employers have already deducted Monthly Tax Deduction (MTD) from my monthly salary, so I do not need to submit my income tax form every year.
			7.	I do not need to submit income tax form if I elect MTD as the final tax.
			8.	As I have already paid my taxes, I do not need to submit my income tax form voluntarily.
4.	Perceived Usefulness	Taylor & Todd (1995c)	1.	Voluntary compliance with tax law using e-filing system will be of no benefit to me.
			2.	Using e-filing system to comply with tax laws voluntarily will improve my performance in submitting income tax form.
			3.	The advantages of filing income tax form voluntarily using e-filing system will outweigh the disadvantages.
			4.	Overall, submission of income tax form voluntarily using the e-filing system will be advantageous.
			5.	The voluntary submission of income tax form using an e-filing system service that is no benefit to me is bad.
			6.	The voluntary submission of income tax form using e-filing system service that will improve my grades is good.
			7.	The voluntary submission of income tax form using e-filing system service with more advantages than disadvantages is good.
			8.	The voluntary submission of income tax form using e-filing system service that is advantageous is good.

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Table 3.1 (Continued)

No	Construct	Source	Items
5.	Perceived Ease of Use	Davis (1989)	1. Learning to submit income tax form voluntarily by operating e-filing system would be easy for me. 2. I would find it easy to submit income tax form voluntarily by getting e-filing system to do what I want it to do. 3. My interaction with e-filing system would be clear and understandable for me to file income tax form voluntarily. 4. I would find e-filing system to be flexible to interact with during the process of voluntary income tax form submission. 5. It would be easy for me to become skilful to submit income tax form voluntarily by using e-filing system. 6. I would find the submission of income tax form voluntarily through e-filing system easy to use.
6.	Compatibility	Taylor & Todd (1995c)	1. Using the e-filing system will fit me well with the way I work in submitting my income tax form voluntarily. 2. Using the e-filing system will fit into my work style in submitting my income tax form voluntarily. 3. The setup of the e-filing system will be compatible with the way I work in submitting my income tax form voluntarily. 4. E-filing system service that fits well the way I work is good towards voluntary tax compliance. 5. E-filing system service that fits into my workstyle is good towards voluntary tax compliance. 6. E-filing system service that is compatible with the way I work is good towards voluntary tax compliance.
7.	Subjective Norm	Taylor & Todd (1995c)	1. People who influence my behaviour would think that I should comply voluntarily with tax laws in submitting income tax form via e-filing system. 2. People who are important to me would think I should voluntarily comply with tax laws in submitting income tax form via e-filing system. 3. People who influence my behaviour would think that I should voluntarily comply with tax laws in submitting my income tax form via e-filing system 4. People who are important to me would think I should submit my income tax form voluntarily via e-filing system.
8.	Peer Influence	Taylor & Todd (1995b, 1995c)	1. My friends would think that I should voluntarily comply with tax laws by submitting my income tax form via e-filing system. 2. My colleagues would think that I should voluntarily comply with tax laws by submitting my income tax form via e-filing system. 3. My family would think that I should voluntarily comply with tax laws by submitting income tax form via e-filing. 4. Generally speaking, I want to do what my family think I should do towards voluntary tax compliance in submitting income tax form via e-filing system. 5. Generally speaking, I want to do what my friends think I should do towards voluntary tax compliance submitting income tax form via e-filing system. 6. Generally speaking, I want to do what my colleagues think I should do towards voluntary tax compliance in submitting income tax form via e-filing system.

Table 3.1 (Continued)

No	Construct	Source	Items
9.	Mass Media Referent	Md Husin et al. (2016); Harrison (2009)	1. I read/saw news/reports where filing income tax forms voluntarily via e-filing system is a good way to voluntarily declare my income tax. 2. The media and advertising consistently recommend the usage of e-filing system to comply by filing income tax forms voluntarily. 3. In my profession, it is advisable to comply by voluntarily filing the income tax form. 4. The media are full of reports, articles, and news, suggesting that using e-filing system to comply voluntarily is a good idea. 5. Mass media reminds me of the last income tax filing date in complying voluntarily with tax laws. 6. I am able to search for information and answers regarding income tax filing issues via internet or social media as referent. 7. I learn how to submit my income tax form towards voluntary tax compliance by using my idols guidance in mass media. 8. I would like my voluntary tax compliance behaviour to look like my idols. 9. Watching TV, listening to radio, or reading magazines or social media posts makes me want to comply voluntarily with tax laws via e-filing system.
10.	Perceived Behavioural Control	Taylor & Todd (1995c)	1. I would be able to submit income form voluntarily by using the e-filing system. 2. Using the e-filing system to submit income tax form voluntarily is entirely within my control. 3. I have the resources, knowledge, and ability to submit my income tax form voluntarily by making use of the e-filing system.
11.	Self-Efficacy	Taylor & Todd (1995c)	1. I would feel comfortable using e-filing system to submit income tax form voluntarily. 2. If I want to, I could easily operate e-filing system voluntarily on my own. 3. I would be able to use the e-filing system to submit income tax form voluntarily even if there is no one around to show me how to use it. 4. For me, feeling comfortable using e-filing system on my own is important. 5. For me, being able to easily operate the e-filing system on my own is important. 6. For me, being able to use e-filing system even if there is no one around to show me how to use it is important.

Table 3.1 (Continued)

No	Construct	Source		Items
12.	Facilitating Conditions	Taylor & Todd (1995c); Venkatesh, Chan & Thong (2012)	1.	The equipment (printer/computer) in e-filing system is not compatible with other computers that I used.
			2.	The e-filing system is not compatible with other software systems I use.
			3.	I will have trouble in submitting income tax form voluntarily through e-filing system.
			4.	For me, an e-filing service having equipment that is compatible with the other equipment that I use is important.
			5.	For me, an e-filing service having software that is compatible with the software I use is important.
			6.	For me, whether or not I have trouble in using e-filing to submit my income tax form voluntarily is important.
			7.	I expect to get the help I need in using e-filing system to submit income tax form voluntarily.
			8.	It would be easy for me to get assistance when I am having trouble using e-filing system to submit income tax form voluntarily.
			9.	I expect clear instructions regarding the use of e-filing system in submitting income tax form voluntarily.
13.	Ability To Pay	Bidin & Md Idris (2009)	1.	I can perform my tasks efficiently including paying tax after voluntarily declaring my income tax.
			2.	I am able to pay tax despite the obstacle after voluntarily declaring my income tax.
			3.	Despite facing with financial difficulties, I am still able to pay tax after voluntarily declaring my income tax every year.
			4.	I am able to pay tax after voluntarily declaring my income tax because I have paid income taxes beforehand.
			5.	I am able to achieve all my objectives including paying tax after voluntarily declaring my income tax.
			6.	I might need to defer tax payment through instalments when facing the highest financial difficulties during the decision to declare my income tax voluntarily.

3.5.5 Demographic Variables

Numerous studies included demographic details, such as age, marital status, level of education, monthly income, and race. These demographic factors are vital in understanding the behaviour of individual taxpayers in each category. Hence, Table 3.2 indicates the scale of demographic factors, which are derived from the Department of Statistics Malaysia based on Labour Statistics in Malaysia. In this case, the demographic variables are measured as shown in the following table.

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Table 3.2:
Demographic variables

Adopted or adapted items
- Age (15 – 24 years, 25 – 34 years, 35 – 44 years, 45 – 54 years, 55 – 64 years, > 65 years)
- Marital Status (Single, Married, Divorced)
- Highest level of education (High school, Diploma or Certificate, Bachelor's degree, Masters, PhD)
- Household income per month (<RM 5,000, RM 5,001 to RM 10,000, RM 10,001 to RM 20,000, >RM 20,001)
- Source of income (Salary from Employment, Business, Both Salary & Business, Others: please specify)
- Is there Monthly Tax Deduction (PCB) in your salary payslips? (Yes, No)
- Race (Bumiputra, Chinese, Indian, Others)
- Methods of filing income tax return (Manual form, Personal Computer, Laptop, PDA, Smartphone/Handphone, Others)

Source: *"Malaysia:* Labour Force Survey Report Q2 2018*"* (Department of Statistics Malaysia, 2018)

3.6 Population and Sampling

This study applied the clustered random sampling method in selecting the samples. According to Corrigan, Kuwabara, and O'Shaughnessy (2009) who referred to previous studies by Corrigan et al. (2000), and Weiner, Perry, and Magnusson (1988), although stratified random sampling is similar to convenience random sampling, it has proven to present good external validity compared to convenience sampling. The total labour force in Malaysia amounted to approximately 14,450,000 employed individuals with the majority of employees (77.5%) working in the urban area (Appendix 1). Given this study focus on the individual taxpayers with employment income, only the individuals with the status of employees were involved, which included either the public or private sector employees. The population of employees was then subdivided into public and private sectors. Ghazali et al. (2014) suggested that different populations, including individual taxpayers and non-government servants, are tested. Based on the labour survey report by Department of Statistics Malaysia (2018), a total of 740,700 employees (5.1%) from the public administration and defence, the compulsory social security

ideally represented the public sectors. Meanwhile, the employment from other industries were deemed from the private sectors that consisted of approximately 13,709,300 employees (Appendix 1).

Based on the records from IRBM, the total population of active registered individual taxpayers with employment income amounted to approximately 5,536,265 (Appendix 4) compared to the total of 14,450,000 employees. Therefore, many individuals did not fall under the taxable income bracket. To obtain responses from the valid and reliable samples for the purpose of this study, focus was placed on the respondents who worked in an organisation with more than 100 individual employees and monthly tax deductions (MTD) (Bidin & Md Idris, 2009).

Due to the confidentiality of information, the lists of companies with a total number of employees with MTD deductions were not available for sampling process. However, to increase the chances of obtaining respondents with MTD deductions, employees who worked in renowned large companies or government ministries located within the vicinity of Klang Valley were selected for data collection. As of 31 December 2017, the majority of the total 905 public listed companies had their headquarters located in Klang Valley (Bursa Malaysia Berhad, 2018). Large well-known companies presented higher number of employees with MTD deductions due to the higher positions of the headquarters compared to other smaller companies. Consistently, similar number of questionnaires was distributed to the civil servants working in the headquarters of ministerial departments.

3.6.1 Unit of Analysis

Provided that the objective of the study is to assess the voluntary tax compliance intention among individual taxpayers with employment income in Malaysia, it would be appropriate to appoint employees with MTD deductions as the unit of analysis. Therefore, the respondents of this study comprised employees with MTD deductions in their payslips. The respondents were then categorised into either public or private taxpayers, with MTD deductions only being used for data analysis. The employees with other non-business income including rental, commission, dividend, and other taxable income were selected for the analysis. However, aside from the employment income, the respondents with business income were separated from this study. The clustered respondents were randomly selected for the survey due to the challenges in recruiting non-compliant respondents (Mckerchar, 2008).

3.6.2 Sampling Size

Population refers to the entire group of individuals, events, or point of interest that the researchers aim to investigate (Sekaran, 2003). In this study, the targeted population was identified as the registered individual taxpayers with IRBM. On 31 December 2017, the population of active individual taxpayers who were registered with IRBM amounted to 5,536,265 (Appendix 3).

A sample was used to perform the study. According to Sekaran (2003), sampling process referred to the selection of sufficient number of samples from a population. Based on the table by Krejcie and Morgan (1970), the recommended minimum sample size was 384 respondents. However, it was suggested that in PLS-SEM, the minimum

sample size should follow the 10-time rule of thumb (Hair, Hollingsworth, Randolph, & Chong, 2017; Hair, Ringle, & Sarstedt, 2011; Hair Jr, Hult, Ringle, & Sarstedt, 2016), which was questioned by some researchers. Kock and Hadaya (2016) argued that the minimum sample size for PLS-SEM should amount to 160 respondents. Due to the difficulties in obtaining data particularly in the field of taxation (Mckerchar, 2008), a sample size of 2,000 was targeted to increase the number of useable data for analyses. In this study, 1,000 respondents from the private and public sectors were obtained for analysis.

3.6.3 Sampling Technique

This study adopted the clustered random sampling, with the samples being formed into groups with similarities. It was deemed that the appropriateness of this technique was applied to form groups according to their attitudinal variables and demographic similarities (Okazaki, 2006). According to Sarstedt, Bengart, Shaltoni, and Lehmann (2018), cluster sampling involved the redefined homogeneous group with heterogeneous elements. A previous study by Pui Yee, Moorthy, and Choo Keng Soon (2017) recommended cluster sampling technique for tax-related studies to divide the population into targeted samples. Several tax studies utilised the cluster sampling technique (Bidin, Hussin, & Mohd Salleh, 2011; I. Ibrahim, 2013b; Lai & Ahamad Nawawi, 2010; Mohd Faizal, Palil, & Ramli, 2017).

To achieve the highest number of valid and reliable responses from a total of 2,000 distributed questionnaires, the self-administered questionnaires were presented to the representatives who worked in the administrative department of each selected office.

These questionnaires were distributed to 100 randomly selected individuals with monthly tax deduction (MTD) in their respective offices for responses. The participation of employees from 10 headquarters of well-known large companies in Malaysia and 10 ministries from public sectors was obtained for this survey. Headquarters of large companies and ministries were selected, given that instructions and directives were normally issued by headquarters to branches, which showed similar working attitudes towards achieving common understandings and objectives. Hence, the practice and work culture of headquarters and branches are presumed to be similar in nature.

3.7 Data Collection Procedures

The main method used to collect data in this study was the self-administered survey. According to McKerchar (2008), surveys could be conducted via electronic medium, telephone, in person, or by mail. This self-administered electronic survey was considered to cover a wide geographical area, low costs, and was convenient for respondents (Sax, Gilmartin, & Bryant, 2003; Sekaran & Bougie, 2010). In terms of the usefulness and validity of online data collection, compared to the traditional method of paper questionnaires, there has been a rapid increase in the use of internet survey based on the Web-based surveys (Sax et al., 2003). A previous study demonstrated that by adopting electronic survey, no significant difference or bias took place compared to face-to-face interviews (Lindhjem & Navrud, 2011). Additionally, respondents were assured of their anonymity, while the instrument measurement was standardised throughout the study.

In this study, the representatives from each participating office was made known of the purpose of this study. Steps were taken to ensure sufficient number of respondents was obtained. A maximum of 100 email addresses of randomly selected participants was obtained from the representative of each participating office. Following that, the link for survey form was emailed to participants.

In view of confidentiality where email addresses were not provided, appropriate steps were undertaken to ensure that the survey form reached the targeted respondents. The representatives of the offices were briefed on the criterions for the selection of respondents. They were also informed to randomly select 100 participants from their office, who had monthly tax deductions in their payslips. Advice was made to the representatives to limit the numbers of respondents to 100.

3.7.1 Administration of questionnaires

Several procedures were taken during the administration of the questionnaires to ensure that the instruments used were precise, presentable, and professionally presented. To achieve the objectives of this study, the respondents' interest in this study was highly regarded and emphasised. Prior to data collection, the researcher obtained permission to conduct surveys within the locality of the respective offices through their representatives. Several other steps were taken to elicit the respondents and seek their interest. In developing the interest towards the response, the questionnaires should be concise, attractive, and professionally presentable to achieve the objectives of this study. The electronic survey forms were designed to conveniently draw responses from the respondents. The links to the electronic form allowed respondents to submit their

responses at any time and place. Additionally, the Times New Roman font with size 12 was used in the questionnaires to ease the reading process among the respondents.

3.7.2 Questionnaire design

The research instrument development involved two steps, namely questionnaire design and pre-testing. According to Sekaran (2003), good questionnaire design should emphasise the wordings used for the questions, measurements principles, and the questions' general appearance. In this study, most of the questions were adapted from past studies. The measurement of variables referred to past results of previous studies to ensure the level of validity and reliability of all the variables used in this research (Yuan et al., 2010).

The questionnaires comprised four sections, in which Section One was related to the antecedents of attitude towards voluntary tax compliance intention. Section Two presented the antecedents of subjective norm towards voluntary tax compliance intention. Following that, Section Three was related to the antecedents of perceived behavioural control towards voluntary tax compliance intention. Section Four presented the voluntary tax compliance intention. In Section Five, the questions regarding taxpayers' demographic details including age, marital status, level of education, household income level, categories of employment, source of income, Monthly Tax Deduction (MTD), and methods of filing income tax return were presented. The questionnaire shown in Appendix 11 was presented to the respondents to fulfil the purpose of this study.

Various process was developed in designing and administrating the questionnaire. To develop the instrument measurements, the development of the questionnaire focused on the wording, categorisation of variables that would be scaled and coded after post data collection or receipts of responses, and general questionnaire appearance. Overall, these elements of questionnaire design were vital to reduce bias in this research (Sekaran & Bougie, 2010).

3.7.2.1 Language and wording of questions

Based on the objective of this study, a comprehensive literature review presented the variables that determined the types of questions being asked. The appropriateness of the questionnaires content, wordings, level of language sophistication, the forms, types, and sequences of questions, and the respondents' personal data were elements of the wording principles of this research. Prior to data collection, the questionnaires were checked for appropriateness of the wording used to minimise the error and ambiguous questions. Although Malay was termed as Bahasa Malaysia in 1957, it has been the national language since 1969 (Hassan & Hashim, 2009). Similarly, English is widely used in businesses and commerce (Foo & Richards, 2004). Given that most of the respondents are highly educated, working in the headquarters of well-known organisations, and well-versed in English, the questionnaires for this study was prepared in English.

3.7.2.2 Type and format of questions

The questionnaires could be either open-ended or closed, while the wording could be positively or negatively worded. In this study, closed questions were used to ask the

respondents through a set of alternatives to assist them in making quick decisions and codifying the responses towards data analyses by the researcher. A set of questionnaires was forwarded to the experts to evaluate and cross-check the relevance of the content and length of questions.

3.8 Data Analysis

Prior to data analysis, data preparation was made through the coding of questionnaires and entry of data into statistical software. The IBM SPSS Statistics Version 23 was used to perform descriptive analysis of the variables involved. The outliers of this study were identified, followed by further identification of problems through data visualisation. The acceptable responses were entered into SPSS software for analysis after the process of coding and editing. Notably, data coding through appropriate symbol characters including numerical symbols is necessary for systematic data storage purposes.

In analysing the data collected from the field, the data were screened and cleaned to prevent abnormality. The data collected from the returned questionnaires were coded before the analyses using Partial Least Squares Structural Equation Modelling (PLS-SEM) technique. The benefit of using PLS-SEM is that it analyses multi-item constructs structural model and measurement, particularly on whether the interaction impacts are direct or indirect (Venkatesh, 2000). Descriptive statistics obtained from initial analyses were conducted for the frequency, mean, and standard deviation of respondents' analyses.

3.8.1 Structural Equation Modelling

The main purpose of SEM is to describe and illustrate the series of concurrent dependence relationships (Hair, Black, Babin, & Anderson, 2014). SEM is advantageous especially in testing multiple equations theories that involve dependence relationships, which are more confirmatory in nature instead of exploratory. The foundation of SEM is present on two multivariate techniques of multiple regression analysis and factor analysis. Furthermore, SEM is commonly known as covariance structure analysis or latent variable analysis, with specialised software packages including AMOS and LISREL. The causal modelling SEM through data modelling technique is known as path modelling, structural modelling, and covariance structure analysis. The structural model consists of relationships amongst the constructs (Bagozzi, 2011), in which causal models offer the following four key benefits to researchers (Bagozzi, 1980):

i. The ability to construct and hypothesise relationships, including making assumptions of an explicit theory

ii. The ability to present some additional precisions to a theory with clear operational definition, constructs, and functional relationships

iii. Providing complete representations complex theories through causal modelling

iv. Providing a formal framework for constructions and testing of both theories and measurements through causal modelling

Variance-based SEM (VB-SEM) and co-variance-based SEM (CB-SEM) are two types of SEM approaches (Chin, 1998). The causal modelling approach of PLS-SEM aims to maximise the variance explanation of dependent latent constructs (Hair et al., 2011). In

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contrast, the CB-SEM aims to reproduce theoretical covariance matrix without placing

a focus on the explained variance. Therefore, past research works, especially in the

studies of marketing, psychology, and social sciences were dependent on CB-SEM.

However, the usage selection of either PLS-SEM or CB-SEM depends on the relevant

research objectives. The research works by Hair et al. (2011), Hair, Risher, Sarstedt,

and Ringle (2018), and Hair, Sarstedt, Hopkins, and Kuppelwieser (2014) presented

several recommendations in choosing PLS-SEM or CB-SEM. The following table

presents the crucial distinctions of PLS-SEM and CB-SEM.

Table 3.3:
Differences between PLS Variance Based and Covariance Based Analyses

Criterial	PLS (Variance based SEM)	Covariance Based SEM
Objective	Prediction oriented	Parameter oriented
Approach	Variance	Covariance
Assumption	Nonparametric	Parametric
Implication	Optimal for prediction	Optimal for parameter estimates
Parameter estimates	Explicitly established	Indeterminate
Model complexity	Large	Small to moderate
Sample size	20 to 100	200 to 800

Source: Hulland, Ryan, and Rayner (2010)

3.8.2 Advantages of PLS-SEM

Based on Hair, Risher, Sarstedt, and Ringle (2018), the availability of numerous

favourable criteria in using PLS-SEM could be considered for this research. The

favourable conditions for using PLS-SEM are as follows:

    i.   Analysis concerning the testing of theoretical framework in predictive

        perspective

    ii.   Complex structural model with many constructs, model relationships and/or

        indicators

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iii. Research objective related to improved understanding of complexity in exploring theoretical extensions of established theories

iv. Path model with one or more formative measurement constructs

v. Research consisting of financial ratios or similar data artefacts

vi. Secondary or archival data-based research with lack of comprehensive validation on measurement theory grounds

vii. Restricted sample size of small population despite the good performance of PLS-SEM with large sample sizes

viii. Concerning distribution issues such as lack of normality

ix. Research with latent variable scores required for follow-up analyses

The advantages of Smart PLS offers the benefit and suitability of this study. Given that one of this study objectives is to determine whether the DTPB model could provide better predictiveness of voluntary tax compliance behaviour studies, the usage of PLS-SEM was aligned to its use for theory testing with more predictive-oriented objective. Notably, few tax-related studies had utilised PLS-SEM in the analyses.

The problems of small sample size in PLS path modelling could be prevented and applied in some situations, where small sampling size problems could be present in other methods. In addition, high statistical power could be obtained using PLS compared to its covariance-based counterpart even with a small sample size of 100 observations (Reinartz, Haenlein, & Henseler, 2009). The study by Wong (2013) suggested that the PLS is highly useful if the distribution data is skewed with limited number of participants. Although the above arguments present the basis for studies with

small sample sizes, Hair et al. (2018) stated that PLS-SEM showed high performance with large sample sizes too. This condition leads to flexibility of the study samples.

Provided that this study adopted the DTPB model, which is a complex model with multidimensional constructs, PLS-SEM offers the advantage of handling complex structural model with many constructs, indicators, and/or model relationships (Hair et al., 2018). Furthermore, the PLS-SEM observes the individual internal reliability consistencies instead of assuming that all indicator loadings are equal, given that it is feasible without distributional beliefs of ordinal, nominal, and interval scaled variables. Although CB-SEM could handle formative indicators, certain rules are to be followed, which may place certain constraints on the model (Hair, Sarstedt, Ringle, & Mena, 2012). In contrast to CB-SEM, PLS-SEM could handle both formative and reflective measurement models.

The measurement model illustrated the relationship between the manifest variables and the latent variable. Meanwhile, the structural model explained the unobserved variables and their relationships. Given that the constructs of this study were reflective measurement model, the PLS-SEM algorithm was performed to attain the loadings results for reflective constructs indicators in the measurement model. Hence, with the numerous advantages in achieving the objective of this study, PLS-SEM presented a distinctive advantage in analysing the data of this study to explain the relationships between the variables.

3.9 Validity and Reliability

The consistencies in research findings after a repeated research led to the same results, with the findings considered as reliable. The most common method in estimating internal constructs consistencies is the use of Cronbach Alpha as the indictor (Onwuegbuzie & Daniel, 1999). Reliability test was conducted to examine the internal consistency in one of the measures employed and to detect consistencies in answering all the questions by the respondents, the independence degree, and similarity correlation with one another in the instruments used in this study.

3.9.1 Pre-Tests

Prior to the main study, pre-tests were conducted to seek opinions from experts to improve the questionnaires. In the pre-test process, questionnaires were distributed to a group of respondents to detect abnormalities in the questionnaire design, and difficulties faced by the respondents in understanding the questions, and any confusing or biased questions (Sekaran, 2003). Pre-test can be conducted using colleagues, surrogate respondents, or actual respondents to refine the measuring instruments. Experts' evaluation and comments were obtained to detect the ambiguity and relevance of questions used in the questionnaires. A combination of responses from colleagues, surrogate respondents, and actual respondents were obtained for the purpose of this test.

3.9.2 Pilot Tests

A pilot test was conducted after the pre-test study to detect design and instrumentation weakness and offer a selection of proxy data. This action allowed the evaluation of the

actual response rate and ensured that the items in the questionnaires established high reliability level. The difficulties faced by respondents in completing the questionnaires or instructions may be insufficient to assist respondents towards the completion of questionnaires (Moore & Benbasat, 1991). Pilot study is a smaller scale of larger survey.

Prior to data collection from the field, the data collected from the pilot test was analysed using the SPSS software to test the reliability of the questionnaires. To fulfil the purpose of this study, a total of 100 questionnaires were self-administered equally to the public sector and private sector employees who were randomly selected for the pilot study. Subsequently, reliability test was performed to examine the instruments internal consistency, which was employed in this study to detect the consistencies of answers (Nunnally, 1978) using IBM SPSS Statistics Version 23. The response rate for this pilot test amounted to 50%. Reliability coefficient was better when the amount was closer 1.0. An acceptable reliability coefficient amounted to over 0.60, while the amount higher than 0.80 was considered good, and the amount lower than 0.60 was poor (Sekaran & Bougie, 2010). The results from pilot test, which were conducted to measure the reliability of each instrument, demonstrated that all variables were within the acceptable range of 0.625 to 0.981, as shown in Table 3.4.

Table 3.4:
The Reliability Coefficient Results for Pilot Test (n=50)

Measures	Number of Items	Cronbach α
Attitude (ATT)	4	.973
General Tax Filing Knowledge (GTK)	8	.642
Perceived Usefulness (PU)	8	.625
Perceived Ease of Use (PEOU)	6	.948
Compatibility (COMP)	6	.956
Subjective Norm (SN)	4	.981
Peer Influence (PI)	6	.958
Mass Media Referent (MMR)	9	.873
Perceived Behavioural Control (PBC)	3	.944
Self-Efficacy (SE)	6	.944
Facilitating Conditions (FC)	9	.780
Ability to Pay (ATP)	6	.851
Behavioural Intention (BI)	3	.959

While the reliability test showed favourable results, the factor analysis was required to determine the pattern of items in each construct. Therefore, the data appropriateness was achieved through the derivation of Kaiser-Meyer-Olkin (KMO) value of more than 0.50 and Bartlett's Test of Sphericity (BTOS) significance value of 0.000. Hence, matrices would be rechecked and deleted if the minimum requirement was not obtained.

The sample adequacy measurement of total 13 constructs based on KMO showed a range between 0.673 and .913, which was considered acceptable based on the rule of thumb if the construct was above 0.50 (Hair, Black, et al., 2014). The highest KMO value of .913 was the perceived ease of use (PEOU) construct, while the lowest KMO value of 0.673 was the facilitating conditions (FC).

In the case of the number of factors to be retained, the analysis demonstrated that all 13 constructs comprised one to three factors. Notably, the majority of the constructs that comprised only one factor included the perceived ease of use (PEOU), compatibility (COMP), attitude (ATT), peer influence (PI), subjective norm (SN), self-efficacy (SE), perceived behavioural control (PBC), and behavioural intention (BI). While general tax

filing knowledge (GTK) and ability to pay (ATP) comprised two factors, perceived usefulness (PU), mass media referent (MMR), and facilitating conditions (FC) comprised three factors. All these factors remained, given that the total explained variance was above 60% (Hair, Black et al., 2014), while the BTOS value of all items was significant with Sig. 0.000. The Table 3.5 showed the result of factor analysis obtained.

Table 3.5:
The factor analysis of instruments (n = 50)

Measures	Number of Items	Number of factors	KMO value	Variance explain
Attitude (ATT)	4	1	.878	93.204%
General tax filing knowledge (GTK)	8	2	.718	66.758%
Perceived Usefulness (PU)	8	3	.751	75.273%
Perceived Ease of Use (PEOU)	6	1	.913	79.585%
Compatibility (COMP)	6	1	.908	83.376%
Subjective Norm (SN)	4	1	.764	94.726%
Peer Influence (PI)	6	1	.838	83.288%
Mass Media Referent (MMR)	9	3	.709	79.034%
Perceived Behavioural Control (PBC)	3	1	.701	90.527%
Self-Efficacy (SE)	6	1	.868	78.889%
Facilitating Conditions (FC)	9	3	.673	76.885%
Ability to Pay (ATP)	6	2	.839	82.816%
Behavioural Intention (BI)	3	1	.769	92.537%

The suitability, appropriateness, and internal consistencies of data tested using reliability and factor analysis presented the need to maintain all items in the questionnaires without any need for deletions.

3.10 Data Screening and Response Analyses

Before descriptive statistics were obtained, several processes were conducted to ensure that all the data were free of errors while the likelihood of biasness was reduced. At the same time, consistencies, accuracy, adequacy, and quality of data used for analyses were increased. Processes including data screening, data editing and coding, missing

values, overall response rates, and non-response bias were performed to increase the usefulness of the collected data.

3.10.1 Data Screening

The data obtained from the survey were entered into SPSS v23 to examine the quality of the collected data. This process is known as data screening, which is vital as it would impact the decisions of findings that would take place in the later stages. Raw data were coded and checked, followed by identification of missing values or outliers and the tests for normality, homoscedasticity, linearity, multicollinearity and non-response bias (Hair, Hult, Ringle, & Sarstedt, 2014). In addition, these processes were necessary for further analyses to be conducted using SmartPLS (Hair, Hult, et al., 2014). The following sections present the data screening processes conducted in this research.
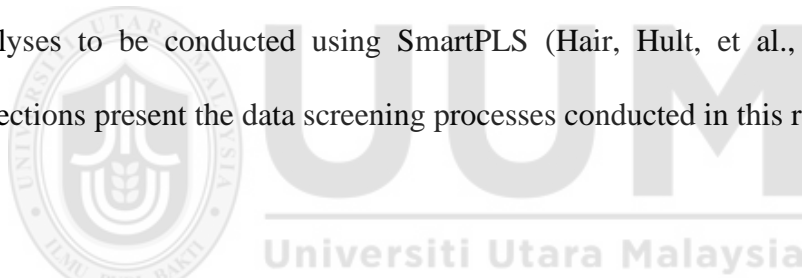
3.10.1.1 Data Editing and Coding

In ensuring the completeness of the collected data, the raw data were entered into SPSS software, followed by an editing process. Several methods of editing involved the precoding and post-coding processes (De Vaus, 2014). Specifically, the process of precoding was where all the questionnaire items of this study were pre-coded with numerical values. Failure of this process would result in uncountable or non-manipulation of data for analyses (Sekaran & Bougie, 2016). The post-coding process required the recoding of indicators in the same directions to ensure less favourable low values with more favourable high values (Hair Jr et al., 2016). Furthermore, the negative statements of indicators were recoded towards the positive directions. The negative indicators, which involved GTK6, GTK8, PU1, FC1, FC2, and FC3, were

recoded towards positive directions. Table 3.6 presents the items that were recorded for the negative statements. Hence, the seven-point scales ranging from 1 = strongly disagree to 7 = strongly agree were recoded to a range of 1 = strongly agree to 7 = strongly disagree.

Table 3.6:
Recoded items

Items	Code
My employers have already deducted Monthly Tax Deduction (MTD) from my monthly salary, so I do not need to submit my income tax form every year.	GTK6*
As I have already paid my taxes, I do not need to submit my income tax form voluntarily.	GTK8*
Voluntary compliance with tax law using e-filing system will be of no benefit to me.	PU1*
The equipment (printer/computer) in e-filing system is not compatible with other computers that I use.	FC1*
The e-filing system is not compatible with other software systems that I use.	FC2*
I will have trouble in submitting income tax form voluntarily through e-filing system.	FC3*

3.10.1.2 Missing Values

Missing values or missing data generally take place when no value is entered for the variable of observation, particularly during the data keying process. However, failure of having these values could result in a major impact on conclusions based on the data entries. There are instances where respondents refuse to answer questions that are sensitive and involve personal information. The unwilling respondents may also refuse to complete the survey by skipping some questions, which lead to missing values for analyses. Given that the electronic form of questionnaires was delivered to the respective respondents who were selected by random via the representative of their

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workplace, it was required that all questions were answered to complete the questionnaires. Hence, the returned questionnaires were obtained without any missing values.

3.10.2 Overall Response Rate

The proportion of people who responded to a survey is known as response rate. This study was designed to survey 2,000 individual taxpayers with employment income stationed in the headquarters of private or public sectors located in Klang Valley. Rigorous and scientific sampling were employed to achieve sample size, which was large enough to accommodate measurement error issues. Each respondent was randomly selected by the representative of each office, which could be either in the public private sectors, to complete the electronic survey forms. The representatives were contacted for updates and responses to achieve 100% response rate. Despite the caution in achieving this response rate, the willingness of respondents remained questionable. However, the favour and concerned elected representatives were obtained to persuade the randomly selected respondents to participate in this study.

Due to the difficulties in achieving the targeted number of respondents, the electronic survey form was utilised to ensure that no questions were left unanswered prior to the completion of the survey questionnaires. As a result, a total of 311 responses were received electronically. As such, five respondents with employment and business income and three respondents without MTD deductions in their payslips were omitted from the analyses, which was in line with the objective of this study. Although Krejcie and Morgan (1970) table suggested a minimum sample of 384 respondents for the

population of study, it was suggested that the minimum sample size in PLS-SEM should follow the 10 times rule of thumb (Hair et al., 2017, 2011; Hair Jr et al., 2016), which was questionable to some researchers. However, it is argued by Kock and Hadaya (2016) that the minimum sample size for PLS-SEM should be 160 responses. Upon the reference to Kock and Hadaya (2016), 303 valid samples obtained from the survey were sufficient for analyses using PLS-SEM. The limited numbers of responses were obtained as taxpayers regarded taxation as a sensitive issue, which led to their reluctance to provide answers to the questionnaire (Sapiei et al., 2014; Yunus, Ramli, & Abu Hassan, 2017). The detailed analyses of response rate are shown in Table 3.7.

Table 3.7:
Response rate

Response Details	Frequency/Rate
Number of questionnaires distributed	2,000
Number of returned questionnaires	311
Number of returned and usable questionnaires	303
Number of excluded questionnaires	8
Response rate	15.55%
Valid response rate	15.15%

3.10.3 Non-Response Bias

The non-response bias was tested through the comparison of early and late responses. Given that the responses were collected in the months of March, April, May, and June 2019, early responses were collected from individuals who responded in March. Late responses referred to the participation of respondents after multiple reminders and follow-ups in June 2019. Thus, the mean values were obtained between the two groups through an independent samples in the t-test. Significant differences of the mean values between the two groups were determined using p-value of less than 0.05 (Pallant, 2013). The independent samples t-test results are presented in Table 3.7.

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The Table 3.7 presents the results of Levene's test for equality of variance and t-test for equality of mean. The Levene test was performed to verify the equality of variance between early and late responses before determining the t-test values of the independent samples. The F values were checked for a 0.05 significance level. Equal variance assumption would be accepted if the F value was 0.05 or higher. Otherwise, a significant difference of variance between the two groups would take place when the F value was lesser than 0.05.

Non-response bias denoted the occurrence where the distinctive survey respondents did not respond due to diverse factors (Sax et al., 2003). This result was in line with the previous study by Armstrong and Overton (1977), who argued that similar characteristics were applied to respondents who provided late responses. With no differences present between the responses of the two groups, non-response bias would be assumed to exist. In determining the presence of non-response bias, independent sample t-test is suitable to test the comparisons between early and late responses (Pallant, 2013). The independent samples t-test were used in this study to examine the significant statistical difference between mean scores of early and late groups of respondents. A total of 151 respondents were classified as early respondents while the late group were represented by 152 respondents. The early group represented the responses obtained in the earlier months after the electronic survey forms were forwarded. Meanwhile, the late group was represented by the responses obtained after several efforts were taken to obtain feedbacks from the respondents in the subsequent data collection activities. These early and late groups were compared for all variables and dimensions. Moreover, the independent samples t-test were performed in this study

to identify any differences present between the two groups of respondents (Sekaran & Bougie, 2016). To illustrate this point, the perceptions and attitudes of taxpayers may differ during the early stage of tax filing month and later stage of tax filing month.

The value of Levene's test for equality of variances should fall within the threshold of higher than 0.05 (Field, 2013; Pallant, 2013). Hence, the results presented in Table 3.8 showed no significant difference between the two groups for all dimensions. It was indicated that the respondents from the two groups belonged to the same population, while the responses obtained from this study were free from other forms of biasness.

Table 3.8:
The Results of Independent Samples t-Test for Non-Response Bias

Construct	Group	N	Mean	Std. Deviation	Levene's Test for Equality of Variances		t-test for Equality of Means	
					F	Sig.	T	Sig. (2-tailed)
ATT	Early	151	26.9007	1.68030	.000	.991	-.841	.401
	Late	152	27.0592	1.59981			-.841	.401
GTK	Early	151	51.3974	3.61309	15.236	.000	-1.835	.068
	Late	152	52.0789	2.80616			-1.833	.068
PU	Early	151	52.1126	3.63234	7.452	.007	-1.468	.143
	Late	152	52.6842	3.12736			-1.468	.143
PEOU	Early	151	38.6358	3.11659	4.714	.031	.129	.897
	Late	152	38.5921	2.75574			.129	.897
COMP	Early	151	38.9338	3.09552	8.719	.003	-.122	.903
	Late	152	38.9737	2.56039			-.122	.903
SN	Early	151	26.6159	1.92479	.298	.586	-.400	.689
	Late	152	26.7039	1.90447			-.400	.689
PI	Early	151	40.0464	2.58286	.218	.641	.476	.635
	Late	152	39.9013	2.72044			.476	.634
MMR	Early	151	57.7351	4.86580	8.384	.004	-1.518	.130
	Late	152	58.4934	3.76107			-1.517	.130
PBC	Early	151	20.1325	1.22025	1.280	.259	-.490	.625
	Late	152	20.2039	1.31893			-.490	.625
SE	Early	151	39.2848	2.77219	9.746	.002	1.398	.163
	Late	152	38.8750	2.31125			1.397	.163
FC	Early	151	58.9801	3.83748	8.935	.003	-.734	.464
	Late	152	59.2763	3.15850			-.733	.464
ATP	Early	151	40.0530	2.78995	.206	.651	-.020	.984
	Late	152	40.0592	2.75064			-.020	.984
INT	Early	151	20.3046	1.21652	9.900	.002	-1.682	.094
	Late	152	20.5263	1.07314			-1.682	.094

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3.11 Chapter Summary

The research methodology used in this study was discussed and explained. This quantitative study employed the survey methodology, where respondents who were selected through clustered random sampling method consisted of individual taxpayers with MTD from employment income. Prior to the data collection, the validity and reliability of instruments and measurements were tested for the suitability of this study. Pre-test was performed prior to the pilot study to ensure the validity and reliability of the instruments and measurements through the use of available suitable statistical tools. After the validity and reliability check, data collection was performed to obtain feedback from the respondents. In summary, the hypotheses developed for this study are presented in the following Table 3.9.

Table 3.9:
Summary of Research Questions and Hypotheses

Research Questions	Hypotheses	Hypotheses Statement
Do the attitude, subjective norm, and perceived behavioural control significantly predict the voluntary tax compliance intention among individual taxpayers via e-filing system?	H1a	Attitude is positively related to voluntary tax compliance intention.
	H1b	Subjective norm is positively related to voluntary tax compliance intention.
	H1c	Perceived behavioural control is positively related to voluntary tax compliance intention.
Do the dimensions of perceived usefulness, perceived ease of use, and general tax filing knowledge have a significant effect on individual taxpayer's attitude towards voluntary tax compliance intention via e-filing system?	H1a2a	General tax filing knowledge is positively related to attitude towards voluntary tax compliance intention.
	H1a2b	Perceived usefulness is positively related to attitude towards voluntary tax compliance intention.
	H1a2c	Perceived ease of use is positively related to attitude towards voluntary tax compliance intention.
	H1a2d	Compatibility is positively related to attitude towards voluntary tax compliance intention.
Do the dimensions of peer influence and mass media referents have a significant impact on individual taxpayer's subjective norm towards voluntary tax compliance intention via e-filing system?	H1b3a	Peer influence is positively related to subjective norms.
	H1b3b	Mass media referent is positively related to subjective norms.
Do the dimensions of self-efficacy, facilitating conditions, and ability to pay significantly determine individual taxpayer's perceived behavioural control towards voluntary tax compliance intention via e-filing system?	H1c4a	Self-efficacy is positively related to perceived behavioural control.
	H1c4b	Facilitating conditions is significantly related to perceived behavioural control
	H1c4c	Ability to pay is significantly related to perceived behavioural control

CHAPTER 4

RESULTS

4.1 Introduction

This chapter presents the analyses of the results of the data obtained from the field survey. Overall, eight main sections consist of the introduction, descriptive analysis, multivariate assumptions, demographic profile, descriptive analysis of research variables, outer model evaluation, structural model assessment, and summary. The descriptive analyses shown in section two comprises the subsections regarding data screening processes, which illustrate the process of data editing and coding, missing values, analysis of outliers, response rate, and non-response bias results. The heading of multivariate assumptions is where the normality, homoscedasticity, linearity, and multicollinearity tests are tabulated and discussed. Demographic profile section is also tabulated to display the characteristics of respondents. Following that, the descriptive analyses of research variables summaries were tabled to understand respondents' views on each research variable. Thus, the results of content validity, convergence validity, and discriminant validity of items and constructs are demonstrated to evaluate the measurement model. The assessment of structural model was performed, with the results being discussed and explained to demonstrate the model strength, predictive capabilities of the research model, and the model Goodness of Fit. Finally, the chapter was concluded with the chapter summary.

4.2 Demographic Profile

A total of 311 respondents were received. Five respondents with employment and business income and three respondents without MTD deductions in their payslips were involved in this study. Given this study sole focus on the employment-sourced income only, the respondents with business-sourced income and the respondents without MTD deductions were excluded from the data. Hence, a total of 303 valid responses were used for the analyses. The respondents' demographic details were summarized in Table 4.1.

Table 4.1:
Participants demographic profile (n=303)

Details	Category	Frequency	Percentage
Age	15-24	0	0.0
	25-34	55	18.2
	35-44	91	30.0
	45-54	87	28.7
	55-64	70	23.1
	>65	0	0.0
	Total	303	100
Marital Status	Single	64	21.1
	Married	221	73.0
	Divorced	18	5.9
	Total	303	100
Highest level of education	High School	2	0.7
	Diploma/Certificate	55	18.1
	Bachelors	183	60.4
	Masters	57	18.8
	PhD/Doctorate	6	2.0
	Total	303	100
Household income per month	<RM5,000	0	0.0
	RM5,001 – RM10,000	55	18.1
	RM10,001 – RM15,000	72	23.8
	RM15,001 – RM20,000	85	28.1
	>RM20,001	91	30.0
	Total	303	100

Table 4.1 (Continued)

Details	Category	Frequency	Percentage
Category of Employment	Private Sector	142	46.9
	Government-Linked Companies (GLC)	10	3.3
	Government Servant (Under Public Service Pension Scheme)	124	40.9
	Department/Agencies Under Government Ministries (Without Public Service Pension Scheme)	27	8.9
	Total	303	100
Sources of Income	Salary from Employment Only	215	71.0
	Combination of Salary & Other Non-Business Income (rental, commission, etc.)	88	29.0
	Combination of Salary & Business Income	0	0.0
	Total	303	100
Any monthly tax deduction in your salary payslips?	Yes	303	100.0
	No	0	0.0
	Total	303	100
How do you file your income tax forms?	Personal Computer	160	52.8
	Manual Form	10	3.3
	PDA/Smartphone/Handphone	27	8.9
	Laptop	106	35.0
	Never Submit Form	0	0.0
	Total	303	100

4.3 Descriptive Analysis of Research Variables

Descriptive statistics were obtained to describe each variable basic features. Based on the number of useable responses, descriptive statistics were conducted to obtain the minimum, maximum, mean, and standard deviation values for each item. The following sections present the results of the range, which included the variance of each item and construct.

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4.3.1 Voluntary Tax Compliance Intention

The voluntary tax compliance intention is presented in Table 4.2. Respondents were required to indicate their opinion on their voluntary tax compliance intention from the items INT1 to INT3. The results demonstrated higher mean values between 6.7987 and 6.8086 for items INT1, INT2, and INT3 with the standard deviation of .42566, .40238, and .40238, respectively. The high relevance of items used to support this variable of the study was also illustrated. Overall, it was suggested that the respondents showed a strong intention to comply voluntarily with tax laws.

Table 4.2:
The Voluntary Tax Compliance Intention Descriptive Statistics (n = 303)

Measures	Code	n	Min	Max	Mean	Standard Deviation
I intend to comply voluntarily with income tax law via e-filing system.	INT1	303	5.00	7.00	6.7987	.42566
I intend to comply voluntarily with income tax law via e-filing system by next income tax filing due date.	INT2	303	5.00	7.00	6.8086	.40238
I intend to comply voluntarily with income tax law frequently via e-filing system.	INT3	303	5.00	7.00	6.8086	.40238
Mean score			5.00	7.00	6.8053	.41014

4.3.2 Attitude

Table 4.3 shows the four items used to measure the attitude of individual taxpayers towards voluntary tax compliance intention. The descriptive statistic results indicated that the majority of the respondents strongly agreed to the idea of having the attitude towards voluntary tax compliance via e-filing system. Their opinions were convened from items ATT1 to ATT4 with high mean values that ranged between 6.7360 and

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6.7525. The standard deviations resulted in a range between .46179 and .46349. Given the high relevance of items used to support this variable of study, high support was present towards this study through the items.

Table 4.3:
The Attitude Descriptive Statistics (n=303)

Measures	Code	N	Min	Max	Mean	Standard Deviation
With my general tax filing knowledge, voluntary tax compliance using e-filing system is a good idea.	ATT1	303	5.00	7.00	6.7525	.46191
With my general tax filing knowledge, voluntary tax compliance using e-filing system is wise idea.	ATT2	303	5.00	7.00	6.7360	.46349
With my general tax filing knowledge, I like the idea of voluntary tax compliance via e-filing system.	ATT3	303	5.00	7.00	6.7393	.46179
With my general tax filing knowledge, voluntary tax compliance via e-filing system would be pleasant	ATT4	303	5.00	7.00	6.7525	.46191
Mean score			5.00	7.00	6.7451	.46228

4.3.2.1 General Tax Filing Knowledge

The general tax-filing knowledge of respondents is illustrated in Table 4.4. It was hypothesised that the taxpayers require necessary tax filing knowledge to display the suitable attitude for complying with tax laws voluntarily. The results of the descriptive statistics demonstrated high mean values ranging from 5.6007 to 6.8449 for items GTK1 to GTK8, with the standard deviation values of .69513, .36261, .61727, .41355, .65115, .55738, 1.14608, and .53739 for GTK1, GTK2, GTK3, GTK4, GTK5, GTK6, GTK7, and GTK8, respectively. However, GTK7 with a mean value of 5.6007 and standard deviation of 1.14608 demonstrated that even

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with the availability for election of Monthly Tax Deduction (MTD) as the final tax, the respondents perceived that they were still required to file their income tax forms voluntarily. The high average mean results illustrated the strong agreement of items used in this study.

Table 4.4:
The General Tax Filing Knowledge Descriptive Statistics (n = 303)

Measures	Code	n	Min	Max	Mean	Standard Deviation
It is a criminal offence for not submitting income tax form.	GTK1	303	4.00	7.00	6.4224	.69513
E-filing system is an electronic mode of filing income tax form through the internet.	GTK2	303	6.00	7.00	6.8449	.36261
I must provide the latest information on my particulars in the e-filing system.	GTK3	303	5.00	7.00	6.4059	.61727
I know that I already submitted my electronic income tax form when I receive an electronic confirmation of receipt from IRBM on the computer screen.	GTK4	303	5.00	7.00	6.8152	.41355
IRBM offers an option to amend my income tax form if I find mistakes in my earlier e-filing submission.	GTK5	303	4.00	7.00	6.3894	.65115
My employers have already deducted Monthly Tax Deduction (MTD) from my monthly salary, so I do not need to submit my income tax form every year.	GTK6*	303	5.00	7.00	6.6139	.55738
I do not need to submit income tax form if I elect MTD as the final tax.	GTK7	303	4.00	7.00	5.6007	1.14608
As I have already paid my taxes, I do not need to submit my income tax form voluntarily.	GTK8*	303	5.00	7.00	6.6469	.53739
Mean Score			5.00	7.00	6.4674	.62257

Note: *Reversed coded items*

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4.3.2.2 Perceived Usefulness

Table 4.5 presents the results of respondents' opinion of e-filing usefulness towards their intention to comply with tax laws voluntarily. The respondents' perception of usefulness was obtained through items PU1 to PU8. Furthermore, their opinions were recorded with mean values ranging from 5.8878 to 6.7162 and standard deviation values between .47309 and 1.13666. Based on the opinions gathered, examination on the respondents' perception of e-filing system usefulness showed that the majority of the respondents strongly agreed to have influence of their attitude towards complying tax laws voluntarily. The average mean of 6.5499 indicated that the variable showed significant relevance, with higher average mean results indicating strong agreement of items used in this study. Therefore, the items were supported by the results.

Table 4.5:
The Perceived Usefulness Descriptive Statistics (n = 303)

Measures	Code	n	Min	Max	Mean	Standard Deviation
Voluntary compliance with tax law using e-filing system will be of no benefit to me.	PU1*	303	5.00	7.00	6.6403	.60841
Using e-filing system to comply with tax laws voluntarily will improve my performance in submitting income tax form.	PU2	303	5.00	7.00	6.4686	.59091
The advantages of filing income tax form voluntarily using e-filing system will outweigh the disadvantages.	PU3	303	4.00	7.00	6.6436	.51950
Overall, submission of income tax form voluntarily using the e-filing system will be advantageous.	PU4	303	5.00	7.00	6.6898	.49111
The voluntary submission of income tax form using an e-filing system service that is no benefit to me is bad.	PU5	303	4.00	7.00	5.8878	1.13666
The voluntary submission of income tax form using e-filing system service that will improve my grades is good.	PU6	303	5.00	7.00	6.7162	.47309

Table 4.5 (Continued)

Measures	Code	n	Min	Max	Mean	Standard Deviation
The voluntary submission of income tax form using e-filing system service with more advantages than disadvantages is good.	PU7	303	4.00	7.00	6.6667	.52530
The voluntary submission of income tax form using e-filing system service that is advantageous is good.	PU8	303	5.00	7.00	6.6865	.49905
Mean score			5.00	7.00	6.5499	.60550

Note: *Reversed coded item

4.3.2.3 Perceived Ease of Use

As illustrated in Table 4.6, the respondents' perceived ease of use was evaluated with items PEOU1 until PEOU6. These items evaluated the respondents' opinion, particularly their perception of the easiness in using e-filing system on their attitude towards voluntary tax compliance intention. The lowest value obtained for mean was 6.3960, while the highest mean value was 6.4818, with the standard deviation values ranging between .55089 and .60044. This result indicated that most of the respondents strongly agreed that the perceived ease of use influences the attitude towards voluntary tax compliance intention. Additionally, the high average mean score of 6.4356 presented the strong agreement of items used for this variable.

Table 4.6:
The Perceived Ease of Use Descriptive Statistics (n=303)

Measures	Code	n	Min	Max	Mean	Standard Deviation
Learning to submit income tax form voluntarily by operating e-filing system would be easy for me.	PEOU1	303	5.00	7.00	6.4224	.57523
I would find it easy to submit income tax form voluntarily by getting e-filing system to do what I want it to do.	PEOU2	303	5.00	7.00	6.4521	.56690

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Table 4.6 (Continued)

Measures	Code	n	Min	Max	Mean	Standard Deviation
My interaction with e-filing system would be clear and understandable for me to file income tax form voluntarily.	PEOU3	303	5.00	7.00	6.3960	.58817
I would find e-filing system to be flexible to interact with during the process of voluntary income tax form submission.	PEOU4	303	5.00	7.00	6.4026	.60044
It would be easy for me to become skilful to submit income tax form voluntarily by using e-filing system.	PEOU5	303	5.00	7.00	6.4587	.57323
I would find the submission of income tax form voluntarily through e-filing system easy to use.	PEOU6	303	5.00	7.00	6.4818	.55089
Mean score			5.00	7.00	6.4356	.57581

4.3.2.4 Compatibility

Table 4.7 presents the respondents' view on compatibility for items COMP1 to COMP6. The mean values obtained for COMP1, COMP2, COMP3, COMP4, COMP5, and COMP6 ranged between 6.4554 and 6.5413, with standard deviation of .55029, .56237, .57298, .53284, .53126, and .52648, respectively. These results indicated the respondents' view that the compatibility of e-filing system on attitude towards voluntary tax compliance is extremely high. Additionally, the average mean of 6.4923 offered a strong relevance of items.

Table 4.7:
The Compatibility Descriptive Statistics (n = 303)

Measures	Code	n	Min	Max	Mean	Standard Deviation
Using the e-filing system will fit me well with the way I work in submitting my income tax form voluntarily.	COMP1	303	5.00	7.00	6.4686	.55029

Table 4.7 (Continued)

Measures	Code	n	Min	Max	Mean	Standard Deviation
Using the e-filing system will fit into my work style in submitting my income tax form voluntarily.	COMP2	303	5.00	7.00	6.4719	.56237
The setup of the e-filing system will be compatible with the way I work in submitting my income tax form voluntarily.	COMP3	303	5.00	7.00	6.4554	.57298
E-filing system service that fits well the way I work is good towards voluntary tax compliance.	COMP4	303	5.00	7.00	6.5050	.53284
E-filing system service that fits into my workstyle is good towards voluntary tax compliance.	COMP5	303	5.00	7.00	6.5413	.53126
E-filing system service that is compatible with the way I work is good towards voluntary tax compliance.	COMP6	303	5.00	7.00	6.5116	.52648
Mean score			5.00	7.00	6.4923	.54603

4.3.3 Subjective Norm

The descriptive statistics of items SN1 to SN4 for subjective norm are presented in Table 4.8. The results indicated that all the items displayed high mean value between 6.6568 and 6.6766 with standard deviation values of .52835, .52735, .53156, and .52204 for items SN1, SN2, SN3, and SN4 respectively. The average mean of 6.6651 showed the significant relevance of items. These results indicated the strong agreement among the majority of the respondents that subjective norm is important for them towards voluntary tax compliance intention. Hence, a strong agreement was present for the items used for this variable.

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Table 4.8:
The Subjective Norm Descriptive Statistics (n=303)

Measures	Code	n	Min	Max	Mean	Standard Deviation
People who influence my behaviour would think that I should comply voluntarily with tax laws in submitting income tax form via e-filing system.	SN1	303	5.00	7.00	6.6568	.52835
People who are important to me would think I should voluntarily comply with tax laws in submitting income tax form via e-filing system.	SN2	303	5.00	7.00	6.6601	.52735
People who influence my behaviour would think that I should voluntarily comply with tax laws in submitting my income tax form via e-filing system	SN3	303	5.00	7.00	6.6667	.53156
People who are important to me would think I should submit my income tax form voluntarily via e-filing system.	SN4	303	5.00	7.00	6.6766	.52204
Mean score			5.00	7.00	6.6651	.52733

4.3.3.1 Peer Influence

The respondents' view on peer influence was expressed in items PI1 until PI6, as presented in Table 4.9. Specifically, it was perceived that the important people to the respondents strongly influenced their subjective norm towards voluntary tax compliance intention. The acquired mean values were higher than 6 with a minimum mean value of 6.6304 and maximum value of 6.6766, while standard deviation values ranged from .49602 to .55374. In addition, the average mean of 6.6623 presented strong agreement regarding the items. Given that most of the values are similar, it is proven that people around the respondents including their friends, colleagues, and family members have strong influence on their decision to comply with tax laws voluntarily.

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Table 4.9:
The Peer Influence Descriptive Statistics (n = 303)

Measures	Code	n	Min	Max	Mean	Standard Deviation
My friends would think that I should voluntarily comply with tax laws by submitting my income tax form via e-filing system.	PI1	303	5.00	7.00	6.6700	.52424
My colleagues would think that I should voluntarily comply with tax laws by submitting my income tax form via e-filing system.	PI2	303	5.00	7.00	6.6304	.55374
My family would think that I should voluntarily comply with tax laws by submitting income tax form via e-filing.	PI3	303	5.00	7.00	6.6700	.50493
Generally speaking, I want to do what my family think I should do towards voluntary tax compliance in submitting income tax form via e-filing system.	PI4	303	5.00	7.00	6.6766	.49602
Generally speaking, I want to do what my friends think I should do towards voluntary tax compliance submitting income tax form via e-filing system.	PI5	303	5.00	7.00	6.6535	.52303
Generally speaking, I want to do what my colleagues think I should do towards voluntary tax compliance in submitting income tax form via e-filing system.	PI6	303	5.00	7.00	6.6733	.52944
Mean score			5.00	7.00	6.6623	.52190

4.3.3.2 Mass Media Referent

Table 4.10 shows the respondents' view on mass media referent for items MMR1 until MMR9. The mean values obtained for MMR1, MMR2, MMR3, MMR4, MMR5, MMR6, MMR7, MMR8, and MMR9 ranged between 5.9538 and 6.6304 with a standard deviation of .61867, .57716, .59732, .58568, .57426, .59523, .80428, .77787, and .61265 respectively. Its high average mean score of 6.4573 showed the strong relevance of items used. Based on the results, respondents strongly agreed to the view that the mass media referent with a significant role on subjective norm towards voluntary tax compliance is very high.

Table 4.10:
The Mass Media Referent Descriptive Statistics (n = 303)

Measures	Code	n	Min	Max	Mean	Standard Deviation
I read/saw news/reports where filing income tax forms voluntarily via e-filing system is a good way to voluntarily declare my income tax.	MMR 1	303	4.00	7.00	6.6172	.61867
The media and advertising consistently recommend the usage of e-filing system to comply by filing income tax forms voluntarily.	MMR 2	303	4.00	7.00	6.6304	.57716
In my profession, it is advisable to comply by voluntarily filing the income tax form.	MMR 3	303	5.00	7.00	6.5017	.59732
The media are full of reports, articles, and news, suggesting that using e-filing system to comply voluntarily is a good idea.	MMR 4	303	4.00	7.00	6.6172	.58568
Mass media reminds me of the last income tax filing date in complying voluntarily with tax laws.	MMR 5	303	4.00	7.00	6.6172	.57426
I am able to search for information and answers regarding income tax filing issues via internet or social media as referent.	MMR 6	303	5.00	7.00	6.5875	.58523
I learn how to submit my income tax form towards voluntary tax compliance by using my idols guidance in mass media.	MMR 7	303	4.00	7.00	5.9538	.80428
I would like my voluntary tax compliance behaviour to look like my idols.	MMR 8	303	4.00	7.00	5.9703	.77787
Watching TV, listening to radio, or reading magazines or social media posts makes me want to comply voluntarily with tax laws via e-filing system.	MMR 9	303	4.00	7.00	6.6205	.61265
Mean score			5.00	7.00	6.4573	.63701

4.3.4 Perceived Behavioural Control

The respondents' view on perceived behavioural control was expressed from items PBC1 to PBC3, as shown in Table 4.11. The respondents viewed that behavioural control strongly influenced their voluntary tax compliance intention. The mean values obtained were higher than 6 with minimum mean value of 6.7162 and highest value of 6.7294, while the standard deviation values ranged from .45966 to .47309. In addition,

the high average mean score of 6.7228 demonstrated strong agreement of the items used for this variable. Given the similarity between most of the values, it was proven that respondents' control behaviour had a strong influence on their decision to comply with tax laws voluntarily.

Table 4.11:
The Perceived Behavioural Control Descriptive Statistics (n = 303)

Measures	Code	n	Min	Max	Mean	Standard Deviation
I would be able to submit income form voluntarily by using the e-filing system.	PBC1	303	5.00	7.00	6.7294	.45966
Using the e-filing system to submit income tax form voluntarily is entirely within my control.	PBC1	303	5.00	7.00	6.7228	.46290
I have the resources, knowledge, and ability to submit my income tax form voluntarily by making use of the e-filing system.	PBC3	303	5.00	7.00	6.7162	.47309
Mean score			5.00	7.00	6.7228	.46522

4.3.4.1 Self-Efficacy

The self-efficacy of respondents is illustrated in Table 4.12. It was hypothesised that the taxpayers required necessary knowledge and control to use e-filing system to comply with tax laws voluntarily. The results of the descriptive statistics demonstrated high mean values ranging from 6.3300 to 6.7129 for items SE1 to SE6, with the standard deviation values of .58399, .56470, .59152, .46042, .46910, and .48031 for SE1, SE2, SE3, SE4, SE5, and SE6, respectively. High average mean score of 6.5132 indicated strong relevance of items. Thus, the respondents agreed that self-efficacy has a significant role in perceived behavioural control.

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Table 4.12:
The Self-Efficacy Descriptive Statistics (n=303)

Measures	Code	n	Min	Max	Mean	Standard Deviation
I would feel comfortable using e-filing system to submit income tax form voluntarily.	SE1	303	5.00	7.00	6.3300	.58399
If I want to, I could easily operate e-filing system voluntarily on my own.	SE2	303	5.00	7.00	6.3432	.56470
I would be able to use the e-filing system to submit income tax form voluntarily even if there is no one around to show me how to use it.	SE3	303	4.00	7.00	6.3003	.59152
For me, feeling comfortable using e-filing system on my own is important.	SE4	303	5.00	7.00	6.7129	.46042
For me, being able to easily operate the e-filing system on my own is important.	SE5	303	5.00	7.00	6.6931	.46910
For me, being able to use e-filing system even if there is no one around to show me how to use it is important.	SE6	303	5.00	7.00	6.6997	.48031
Mean score			5.00	7.00	6.5132	.52501

4.3.4.2 Facilitating Conditions

The Table 4.13 presents the respondents' view on facilitating conditions for items FC1 to FC9. The mean values obtained for FC1, FC2, FC3, FC4, FC5, FC6, FC7, F8, and FC9 ranged between 6.1782 and 6.7426, with standard deviation of .56777, .54993, .58980, .58560, .56296, .48167, .53623, .64175, and .47424, respectively. In addition, the high average mean score of 6.5699 indicated the strong agreement of items used. Overall, these results indicated the respondents' view regarding the highly significant role of the facilitating conditions on their control behaviour towards voluntary tax compliance.

Table 4.13:
The Facilitating Conditions Descriptive Statistics (n=303)

Measures	Code	n	Min	Max	Mean	Standard Deviation
The equipment (printer/computer) in e-filing system is not compatible with other computers that I used.	FC1*	303	5.00	7.00	6.6205	.56777
The e-filing system is not compatible with other software systems I use.	FC2*	303	5.00	7.00	6.6667	.54993
I will have trouble in submitting income tax form voluntarily through e-filing system.	FC3*	303	5.00	7.00	6.5479	.58980
For me, an e-filing service having equipment that is compatible with the other equipment that I use is important.	FC4	303	5.00	7.00	6.4752	.58560
For me, an e-filing service having software that is compatible with the software I use is important.	FC5	303	5.00	7.00	6.5116	.56296
For me, whether or not I have trouble in using e-filing to submit my income tax form voluntarily is important.	FC6	303	5.00	7.00	6.6964	.48167
I expect to get the help I need in using e-filing system to submit income tax form voluntarily.	FC7	303	5.00	7.00	6.6898	.53623
It would be easy for me to get assistance when I am having trouble using e-filing system to submit income tax form voluntarily.	FC8	303	5.00	7.00	6.1782	.64175
I expect clear instructions regarding the use of e-filing system in submitting income tax form voluntarily.	FC9	303	5.00	7.00	6.7426	.47424
Mean score			5.00	7.00	6.5699	.55444

Note: *Reversed coded items*

4.3.4.3 Ability to Pay

As illustrated in Table 4.14, the respondents' ability to pay were evaluated with items ATP1 to ATP6, which evaluated the respondents' opinion regarding their ability to pay on their perceived behavioural control towards voluntary tax compliance intention. The lowest value obtained for mean was 6.6436, while the highest mean value was 6.7129 with standard deviation values ranging from .46756 and .55045. Furthermore, the high average mean score of 6.6671 presented strong agreement of the items. Therefore, it was indicated that most of the respondents strongly agreed that their ability to pay influenced their control behaviour towards voluntary tax compliance intention.

Table 4.14:
The Ability to Pay Descriptive Statistics (n=303)

Measures	Code	n	Min	Max	Mean	Standard Deviation
I can perform my tasks efficiently including paying tax after voluntarily declaring my income tax.	ATP1	303	5.00	7.00	6.6799	.53964
I am able to pay tax despite the obstacle after voluntarily declaring my income tax.	ATP2	303	5.00	7.00	6.6436	.55045
Despite facing with financial difficulties, I am still able to pay tax after voluntarily declaring my income tax every year.	ATP3	303	5.00	7.00	6.6766	.51566
I am able to pay tax after voluntarily declaring my income tax because I have paid income taxes beforehand.	ATP4	303	5.00	7.00	6.6832	.51335
I am able to achieve all my objectives including paying tax after voluntarily declaring my income tax.	ATP5	303	5.00	7.00	6.6601	.53977
I might need to defer tax payment through instalments when facing the highest financial difficulties during the decision to declare my income tax voluntarily.	ATP6	303	5.00	7.00	6.7129	.46756
Mean score			5.00	7.00	6.6761	.52107

4.4 Outer Model Evaluation

Outer model evaluation is mainly used to determine the relationship between underlying and observable constructs. The examination of outer model evaluation begins with ascertaining the appropriateness of item loadings of the theoretically devised constructs. This action is performed to ascertain the reliability of the instruments used. Given that this study consisted of reflective indicators, the procedure prescribed by Hair et al. (2011) was implemented to assess the outer model. Reflective outer models involve the evaluation process of identifying indicator reliability (squared standardised outer loadings), convergence validity (average variance extracted), internal consistency (composite reliability), and discriminant validity (cross loadings and Fornell-Larcker criterion) (Hair et al., 2011). This process is ideally known as construct validity, where the conclusive results reflect the constructs when operationalised accurately. The face validity and content

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validity, or ideally known as translation validity, were performed in the pilot study. Criterion-related validities including concurrent validity, convergence validity, predictive validity, and discriminant validity were also conducted. Therefore, the importance of appropriate indicators is vital to ensure suitable operationalisation of particular constructs (Churchill, 1979; Churchill & Peter, 1984), which entail construct validity estimation that could be justified in PLS-SEM via content, convergence, and discriminant validity (Hair et al., 2014).

In the PLS-SEM assessment, two-step approach of outer model measurement and inner model or structural model assessment was performed (Hair et al., 2011; Henseler, Ringle, & Sinkovics, 2009). Specifically, the measurement model assessment focused on the validity and reliability of measures in each formation of constructs (Dijkstra, 2010; Hair et al., 2014). It was emphasised by the researchers that the measurement model assessment mainly involves indicator and internal consistency reliability, including convergent and discriminant validity (Dijkstra, 2010; Hair et al., 2014; Hair et al., 2014; Hair et al., 2011). Hair et al. (2011) indicated that the indicators reliability with loadings of 0.6 and above were acceptable. Hence, the internal measurement consistency reliability could be verified through an acceptable composite reliability threshold value of 0.7 and above (Hair et al., 2011).

The convergent validity and discriminant validity are the main focus in validating PLS-SEM measurement model assessment (Dijkstra, 2010; Hair et al., 2014; Hair et al., 2014; Hair et al., 2011). Convergent validity refers to the correlation of measurement items throughout various measurement methods in the construct. According to Churchill (1979), convergent validity could be established through which the measures highly correlate with other items, which are targeted to be measured in the same construct. Furthermore, Lee,

Choi, Kim, and Hong (2007) highlighted that the assessment of convergent validity could be measured by determining whether the estimated maximum likelihood loading of each indicator on the primary construct is significant. It was also emphasised that the Average Variance Extracted (AVE) was used as a measurement for convergent validity of constructs with a common threshold value of higher than 0.50 (Dijkstra, 2010; Fornell & Larcker, 1981; Hair et al., 2011). This condition signified that more than 50% variance of items have been accounted for (Dijkstra, 2010; Henseler et al., 2009). In PLS-SEM, the AVE is vital in validating the measurement model towards determining usable model fit construct items. Therefore, it is important to set parameters of PLS windows before deleting unfit items to explain the model variances (Dijkstra, 2010; Hair et al., 2014; Hair et al., 2014).

Discriminant validity assesses the relationship of each item to each construct and the significance of measured construct in relation to the intended construct (Hair et al., 2011). However, the previous study by Dijkstra (2010) argued that a strong connection should not be present among other constructs in the model. The verification of discriminant validity is the comparison of square of AVE to the other loadings in each construct, in which the value of square of AVE is expected to be higher (Dijkstra, 2010). Following that, discriminant validity is further substantiated through verification of item loadings, which are higher than the other cross loadings (Dijkstra, 2010; Hair et al., 2014; Hair et al., 2014; Hair et al., 2011). Hence, this study followed the threshold values for the outer model assessment, as shown in Table 4.15 (Bagozzi & Yi, 1988; Hair, Black, et al., 2014; Henseler, Ringle, & Sarstedt, 2015; Henseler et al., 2009).

Table 4.15:
The Measures and Threshold Values for Assessment of Measurement Model

Assessment Subject	Measures	Threshold values
Indicator Reliability	Factor Loadings	>0.4
Internal Consistency Reliability	Composite Reliability	>0.7
Convergent Validity	Average Variance Extracted (AVE)	>0.5
Discriminant Validity	Fornell-Larcker Criterion	The square root of the AVE of each construct should be higher than its highest correlation with any other construct.
Discriminant Validity	Heterotrait-Monotrait Ratio (HTMT)	Thresholds of 0.85 and 0.9 for HTMT to establish discriminant validity

The following sections illustrate the processes taken to measure the outer model.

4.4.1 Content Validity

Content validity refers to the adequacy of test questions, items, and contents or subject area that are intended for assessments. In some cases, the match between test questions, items, and contents or subject area refer to the alignment, while the test questions, items, and contents or subject area may refer to the performance domain. Thus, discriminant validity and convergence validity of constructs are referred upon the examination of construct validity.

Indicator reliability represents the variation of an item explained by the construct with its square of standardised outer loading of the indicator (Hair et al., 2014). All indicators reliability should be accounted for, while the absolute standardised loading of each indicator should be higher than 0.70 (Hair et al., 2011). Additionally, the indicator loadings between 0.40 and 0.70 could be considered for removal from the scale when the deleted scale led to the increment of composite reliability towards the higher

suggested threshold value. The following table demonstrates that the majority of the loadings showed higher value than 0.40, which was close to 0.70. Subsequently, the indicators were not deleted, given that the values of AVE and composite reliability were under the acceptable range. Other indicators besides the acceptable range were removed accordingly. The items of GTK1, GTK3, GTK5, GTK6, GTK7, GTK8, PU1, PU2, PU5, MMR7, MMR8, SE1, SE2, SE3, FC1, FC3, FC4, FC5, and FC8 added to a tally of 19 deleted items. The cross loadings are illustrated in Table 4.16 below.

Table 4.16:
Cross Loadings

CONSTRUCT	ATP	ATT	COMP	FC	GTK	INT	MMR	PBC	PEOU	PI	PU	SE	SN
ATP1	**0.932**	0.711	0.408	0.778	0.595	0.626	0.724	0.737	0.275	0.712	0.613	0.684	0.733
ATP2	**0.876**	0.671	0.397	0.737	0.576	0.559	0.688	0.660	0.279	0.664	0.595	0.630	0.695
ATP3	**0.882**	0.650	0.327	0.760	0.549	0.545	0.668	0.661	0.206	0.658	0.537	0.682	0.698
ATP4	**0.882**	0.663	0.362	0.699	0.557	0.555	0.615	0.641	0.245	0.644	0.553	0.665	0.643
ATP5	**0.904**	0.702	0.388	0.758	0.535	0.564	0.673	0.679	0.310	0.720	0.554	0.659	0.688
ATP6	**0.824**	0.646	0.334	0.693	0.563	0.555	0.625	0.618	0.224	0.601	0.537	0.591	0.625
ATT1	0.701	**0.923**	0.416	0.666	0.628	0.643	0.685	0.637	0.300	0.664	0.600	0.625	0.666
ATT2	0.740	**0.914**	0.425	0.707	0.659	0.672	0.718	0.695	0.322	0.697	0.647	0.649	0.688
ATT3	0.639	**0.878**	0.386	0.625	0.587	0.541	0.652	0.601	0.278	0.675	0.564	0.594	0.639
ATT4	0.615	**0.830**	0.364	0.591	0.550	0.456	0.541	0.586	0.248	0.572	0.524	0.541	0.539
COMP1	0.350	0.356	**0.889**	0.291	0.369	0.308	0.456	0.233	0.596	0.349	0.540	0.344	0.285
COMP2	0.344	0.385	**0.838**	0.292	0.388	0.284	0.425	0.250	0.500	0.342	0.508	0.372	0.292
COMP3	0.339	0.377	**0.858**	0.306	0.376	0.315	0.412	0.286	0.603	0.383	0.512	0.341	0.285
COMP4	0.401	0.415	**0.876**	0.341	0.422	0.386	0.456	0.280	0.560	0.421	0.526	0.378	0.346
COMP5	0.381	0.408	**0.871**	0.359	0.422	0.373	0.435	0.311	0.590	0.372	0.554	0.403	0.360
COMP6	0.353	0.390	**0.860**	0.332	0.398	0.364	0.425	0.267	0.509	0.372	0.526	0.347	0.313
FC2	0.584	0.557	0.283	**0.725**	0.513	0.471	0.541	0.570	0.219	0.530	0.427	0.566	0.533
FC6	0.630	0.544	0.414	**0.778**	0.547	0.515	0.579	0.566	0.261	0.517	0.505	0.539	0.555
FC7	0.720	0.597	0.251	**0.892**	0.485	0.596	0.679	0.743	0.205	0.633	0.491	0.614	0.751
FC9	0.802	0.711	0.309	**0.896**	0.603	0.670	0.694	0.777	0.246	0.678	0.580	0.627	0.715
GTK2	0.607	0.626	0.446	0.576	**0.929**	0.583	0.528	0.546	0.290	0.539	0.628	0.561	0.513
GTK4	0.579	0.652	0.409	0.628	**0.934**	0.614	0.580	0.520	0.306	0.557	0.635	0.548	0.538

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Table 4.16 (Continued)

CONSTRUCT	ATP	ATT	COMP	FC	GTK	INT	MMR	PBC	PEOU	PI	PU	SE	SN
INT1	0.615	0.632	0.395	0.667	0.626	**0.927**	0.599	0.590	0.301	0.566	0.554	0.506	0.556
INT2	0.588	0.614	0.332	0.619	0.595	**0.938**	0.557	0.563	0.206	0.580	0.488	0.507	0.553
INT3	0.599	0.603	0.372	0.644	0.583	**0.939**	0.613	0.608	0.249	0.593	0.526	0.519	0.563
MMR1	0.648	0.641	0.396	0.709	0.521	0.578	**0.862**	0.651	0.295	0.681	0.546	0.621	0.686
MMR2	0.668	0.672	0.394	0.679	0.513	0.551	**0.845**	0.614	0.309	0.713	0.519	0.545	0.679
MMR3	0.540	0.478	0.591	0.494	0.420	0.418	**0.756**	0.435	0.441	0.531	0.606	0.514	0.481
MMR4	0.621	0.638	0.359	0.632	0.487	0.562	**0.864**	0.564	0.273	0.670	0.559	0.595	0.630
MMR5	0.652	0.657	0.354	0.669	0.490	0.552	**0.830**	0.638	0.315	0.688	0.539	0.540	0.657
MMR6	0.645	0.636	0.509	0.612	0.536	0.531	**0.874**	0.575	0.423	0.645	0.625	0.604	0.633
MMR9	0.660	0.597	0.417	0.651	0.529	0.507	**0.861**	0.577	0.321	0.635	0.606	0.598	0.652
PBC1	0.708	0.675	0.297	0.749	0.520	0.558	0.633	**0.914**	0.208	0.619	0.528	0.588	0.649
PBC2	0.693	0.640	0.282	0.746	0.530	0.578	0.622	**0.910**	0.220	0.580	0.522	0.596	0.676
PBC3	0.658	0.628	0.280	0.725	0.511	0.577	0.636	**0.904**	0.291	0.583	0.484	0.604	0.686
PEOU1	0.216	0.264	0.542	0.208	0.282	0.224	0.326	0.187	**0.860**	0.243	0.425	0.289	0.215
PEOU2	0.184	0.228	0.541	0.170	0.270	0.198	0.311	0.188	**0.836**	0.233	0.401	0.207	0.145
PEOU3	0.251	0.249	0.541	0.208	0.247	0.225	0.313	0.216	**0.827**	0.219	0.432	0.264	0.205
PEOU4	0.273	0.307	0.559	0.279	0.301	0.236	0.381	0.262	**0.868**	0.267	0.451	0.313	0.223
PEOU5	0.286	0.332	0.555	0.286	0.266	0.277	0.341	0.248	**0.858**	0.291	0.462	0.276	0.234
PEOU6	0.254	0.254	0.556	0.239	0.264	0.199	0.340	0.224	**0.847**	0.234	0.387	0.250	0.234
PI1	0.627	0.649	0.376	0.596	0.524	0.547	0.661	0.512	0.201	**0.845**	0.549	0.569	0.623
PI2	0.590	0.584	0.320	0.555	0.487	0.466	0.586	0.475	0.191	**0.810**	0.468	0.530	0.579
PI3	0.623	0.570	0.315	0.603	0.516	0.528	0.639	0.521	0.232	**0.842**	0.470	0.580	0.577
PI4	0.622	0.590	0.365	0.589	0.458	0.492	0.633	0.555	0.269	**0.829**	0.471	0.574	0.614
PI5	0.671	0.656	0.394	0.645	0.484	0.543	0.700	0.622	0.308	**0.854**	0.518	0.587	0.655
PI6	0.696	0.686	0.414	0.660	0.522	0.567	0.719	0.619	0.287	**0.895**	0.583	0.611	0.683

Table 4.16 (Continued)

CONSTRUCT	ATP	ATT	COMP	FC	GTK	INT	MMR	PBC	PEOU	PI	PU	SE	SN
PU3	0.500	0.498	0.427	0.484	0.548	0.387	0.497	0.443	0.333	0.418	**0.818**	0.458	0.507
PU4	0.566	0.607	0.421	0.519	0.597	0.487	0.511	0.531	0.365	0.504	**0.859**	0.467	0.566
PU6	0.533	0.554	0.586	0.513	0.618	0.467	0.583	0.500	0.492	0.538	**0.867**	0.476	0.500
PU7	0.599	0.588	0.588	0.546	0.538	0.515	0.647	0.467	0.476	0.571	**0.850**	0.518	0.593
PU8	0.526	0.566	0.580	0.530	0.593	0.522	0.636	0.455	0.483	0.542	**0.877**	0.465	0.518
SE4	0.699	0.657	0.448	0.662	0.552	0.507	0.624	0.616	0.285	0.643	0.525	**0.923**	0.619
SE5	0.641	0.584	0.319	0.625	0.522	0.471	0.578	0.576	0.281	0.582	0.481	**0.902**	0.640
SE6	0.676	0.620	0.383	0.654	0.553	0.515	0.661	0.599	0.300	0.633	0.520	**0.909**	0.653
SN1	0.747	0.676	0.375	0.774	0.577	0.595	0.745	0.699	0.236	0.710	0.632	0.648	**0.928**
SN2	0.681	0.673	0.313	0.675	0.503	0.523	0.648	0.659	0.236	0.673	0.524	0.625	**0.892**
SN3	0.684	0.594	0.290	0.675	0.454	0.509	0.665	0.677	0.224	0.618	0.526	0.618	**0.901**
SN4	0.678	0.656	0.336	0.707	0.506	0.528	0.673	0.637	0.209	0.665	0.594	0.643	**0.905**

NOTE: INT: Voluntary Tax Compliance Intention; ATT: Attitude; GTK: General Tax Filing Knowledge; PU: Perceived Usefulness; PEOU: Perceived Ease of Use; COMP:

Compatibility; SN: Subjective Norm; PI: Peer influence; MMR: Mass Media Referent; PBC: Perceived Behavioural Control; FC: Facilitating Conditions; SE: Self-Efficacy;

ATP: Ability to Pay.

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Table 4.17 shows the factor loading significance level. The loading of each respective construct showed 0.01 significance level, which indicated the assumption of validity through factor analysis. Based on the rule of thumb, outer loading values of over 0.70 were acceptable. Overall, the results indicated that the entire model was preserved.

Table 4.17:
Factor Loading Significance

CONSTRUCT	Original Sample (β)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
ATP1 <- ATP	0.932	0.933	0.012	78.084	0.000
ATP2 <- ATP	0.876	0.877	0.019	46.135	0.000
ATP3 <- ATP	0.882	0.882	0.025	34.976	0.000
ATP4 <- ATP	0.882	0.883	0.021	41.610	0.000
ATP5 <- ATP	0.904	0.904	0.017	52.023	0.000
ATP6 <- ATP	0.824	0.825	0.034	24.040	0.000
ATT1 <- ATT	0.923	0.921	0.018	50.505	0.000
ATT2 <- ATT	0.914	0.913	0.016	57.022	0.000
ATT3 <- ATT	0.878	0.879	0.024	36.210	0.000
ATT4 <- ATT	0.830	0.827	0.032	25.949	0.000
COMP1 <- COMP	0.889	0.891	0.019	47.075	0.000
COMP2 <- COMP	0.838	0.839	0.026	31.748	0.000
COMP3 <- COMP	0.858	0.859	0.022	39.121	0.000
COMP4 <- COMP	0.876	0.876	0.019	47.036	0.000
COMP5 <- COMP	0.871	0.872	0.020	43.165	0.000
COMP6 <- COMP	0.860	0.859	0.024	35.315	0.000
FC2 <- FC	0.725	0.722	0.040	18.334	0.000
FC6 <- FC	0.778	0.776	0.037	20.875	0.000
FC7 <- FC	0.892	0.892	0.018	48.251	0.000
FC9 <- FC	0.896	0.898	0.015	61.052	0.000
GTK2 <- GTK	0.929	0.929	0.018	51.898	0.000
GTK4 <- GTK	0.934	0.934	0.018	51.811	0.000
INT1 <- INT	0.927	0.927	0.017	53.823	0.000
INT2 <- INT	0.938	0.937	0.020	47.785	0.000
INT3 <- INT	0.939	0.938	0.020	47.762	0.000
MMR1 <- MMR	0.862	0.862	0.022	40.072	0.000
MMR2 <- MMR	0.845	0.845	0.022	39.083	0.000
MMR3 <- MMR	0.756	0.758	0.031	24.541	0.000
MMR4 <- MMR	0.864	0.863	0.025	35.209	0.000
MMR5 <- MMR	0.830	0.829	0.025	32.922	0.000
MMR6 <- MMR	0.874	0.874	0.020	44.053	0.000
MMR9 <- MMR	0.861	0.860	0.023	36.904	0.000

Table 4.17 (Continued)

CONSTRUCT	Original Sample (β)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
PBC1 <- PBC	0.914	0.914	0.018	51.668	**0.000**
PBC2 <- PBC	0.910	0.909	0.017	53.399	**0.000**
PBC3 <- PBC	0.904	0.904	0.018	49.992	**0.000**
PEOU1 <- PEOU	0.860	0.859	0.020	42.505	**0.000**
PEOU2 <- PEOU	0.836	0.837	0.025	32.933	**0.000**
PEOU3 <- PEOU	0.827	0.826	0.022	37.083	**0.000**
PEOU4 <- PEOU	0.868	0.869	0.020	42.587	**0.000**
PEOU5 <- PEOU	0.858	0.859	0.019	45.408	**0.000**
PEOU6 <- PEOU	0.847	0.847	0.023	37.403	**0.000**
PI1 <- PI	0.845	0.844	0.024	34.950	**0.000**
PI2 <- PI	0.810	0.810	0.027	29.541	**0.000**
PI3 <- PI	0.842	0.840	0.020	41.602	**0.000**
PI4 <- PI	0.829	0.829	0.021	39.105	**0.000**
PI5 <- PI	0.854	0.855	0.023	36.979	**0.000**
PI6 <- PI	0.895	0.895	0.015	58.652	**0.000**
PU3 <- PU	0.818	0.820	0.025	33.129	**0.000**
PU4 <- PU	0.859	0.861	0.022	38.937	**0.000**
PU6 <- PU	0.867	0.866	0.023	37.727	**0.000**
PU7 <- PU	0.850	0.854	0.037	23.014	**0.000**
PU8 <- PU	0.877	0.877	0.023	37.737	**0.000**
SE4 <- SE	0.923	0.924	0.014	64.223	**0.000**
SE5 <- SE	0.902	0.902	0.018	49.888	**0.000**
SE6 <- SE	0.909	0.910	0.016	57.819	**0.000**
SN1 <- SN	0.928	0.929	0.010	90.060	**0.000**
SN2 <- SN	0.892	0.892	0.020	44.509	**0.000**
SN3 <- SN	0.901	0.902	0.020	46.106	**0.000**
SN4 <- SN	0.905	0.906	0.019	48.631	**0.000**

4.4.2 Convergence Validity

Prior to the establishment of construct validity, constructs and indicators were tested to establish internal consistency reliability of construct measures through composite reliability in assessing the reflective outer models (Hair, Sarstedt et al., 2014). Conventionally, Cronbach Alpha (α) was used for reliability assessment, while Hair, Sarstedt et al., (2014) argued that composite reliability offers better and suitable internal consistency reliability measures. To illustrate this point, there was no assumption that

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the entire indicator loadings are equal among the population with individual reliability-based model estimations. However, Cronbach Alpha (α) is sensitive towards the number of items of a scale that would result in the underestimation of internal consistency reliability.

Generally, convergent validity is supported when outer loadings of each item is above 0.70, while the average variance extracted (AVE) of each construct is above 0.50 (Hair et al., 2018; Hair, Sarstedt et al., 2014). According to Hair, Black et al. (2014), three types of estimations that are used to determine convergent validity include factor loadings, composite reliability, and average variance extracted (AVE). Table 4.18 below demonstrates that all composite reliability values exceeded 0.70, which validated the internal consistency. In addition, all the AVE values were above 0.50. Overall, the results indicated that the composite reliability and AVE values were within the acceptable range (Hair et al., 2018).

Table 4.18:
Convergent Validity

Construct	Item	Loading	Cronbach Alpha	Composite Reliability	Average Variance Extracted
Attitude	ATT1	0.923	0.909	0.936	0.787
	ATT2	0.914			
	ATT3	0.878			
	ATT4	0.830			
General Tax Filing Knowledge	GTK2	0.929	0.848	0.929	0.868
	GTK4	0.934			
Perceived Usefulness	PU3	0.818	0.907	0.931	0.730
	PU4	0.859			
	PU6	0.867			
	PU7	0.850			
	PU8	0.877			

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Table 4.18 (Continued)

Construct	Item	Loading	Cronbach Alpha	Composite Reliability	Average Variance Extracted
Perceived Ease of Use	PEOU1	0.860	0.923	0.940	0.721
	PEOU2	0.836			
	PEOU3	0.827			
	PEOU4	0.868			
	PEOU5	0.858			
	PEOU6	0.847			
Compatibility	COMP1	0.889	0.933	0.947	0.749
	COMP2	0.838			
	COMP3	0.858			
	COMP4	0.876			
	COMP5	0.871			
	COMP6	0.860			
Subjective Norm	SN1	0.928	0.928	0.949	0.822
	SN2	0.892			
	SN3	0.901			
	SN4	0.905			
Peer Influence	PI1	0.845	0.921	0.938	0.716
	PI2	0.810			
	PI3	0.842			
	PI4	0.829			
	PI5	0.854			
	PI6	0.895			
Mass Media Referent	MMR1	0.862	0.932	0.945	0.710
	MMR2	0.845			
	MMR3	0.756			
	MMR4	0.864			
	MMR5	0.830			
	MMR6	0.874			
	MMR9	0.861			
Perceived Behavioural Control	PBC1	0.914	0.895	0.935	0.827
	PBC1	0.910			
	PBC3	0.904			
Self-Efficacy	SE4	0.923	0.898	0.936	0.831
	SE5	0.902			
	SE6	0.909			
Facilitating Condition	FC2	0.725	0.843	0.895	0.682
	FC6	0.778			
	FC7	0.892			
	FC9	0.896			

Table 4.18 (Continued)

Construct	Item	Loading	Cronbach Alpha	Composite Reliability	Average Variance Extracted
Ability to Pay	ATP1	0.932	0.944	0.955	0.781
	ATP2	0.876			
	ATP3	0.882			
	ATP4	0.882			
	ATP5	0.904			
	ATP6	0.824			
Voluntary Tax Compliance Intention	INT1	0.927	0.928	0.954	0.874
	INT2	0.938			
	INT3	0.939			

4.4.3 Discriminant Validity

The confirmation of the outer model construct validity is the main objective of discriminant validity. Notably, discriminant validity is vital in testing hypotheses and differentiates between each respective construct and non-relation to other constructs (Hair et al., 2014). In the measurement of discriminant validity, the methods including cross-loadings examination and Fornell-Larcker Criterion were used to confirm the outer model construct validity. The discriminant validity was established with the use of the square root of each latent variable AVE to determine if the value was larger compared to the values of other latent variable correlation (Chin, 2010; Fornell & Larcker, 1981)

As highlighted by Henseler, Ringle, and Sarstedt (2015), cross-loadings examination and Fornell-Larcker Criterion are two dominant approaches used to determine discriminant validity in variance-based partial least squares structural equation modelling. Furthermore, the researchers proposed the heterotrait-monotrait (HTMT) ratio of correlations, which is a multitrait-multimethod matrix, as an alternative to

assess discriminant validity. Voorhees, Brady, Calantone, and Ramirez (2016) demonstrated that HTMT ratio (Henseler et al., 2015) offered the best discriminant validity assessment with 0.85 cut off.

The results of this study indicated that all the values ranged from 0.826 to 0.935, as shown in Table 4.19. It was also found that each value was larger than other latent variable correlation values (Chin, 2010; Fornell & Larcker, 1981), which confirmed the constructs validity.

Table 4.19:
Fornell-Larcker Criterion

CONSTRUCT	ATP	ATT	COMP	FC	GTK	INT	MMR	PBC	PEOU	PI	PU	SE	SN
ATP	**0.884**												
ATT	0.763	**0.887**											
COMP	0.419	0.450	**0.866**										
FC	0.835	0.733	0.372	**0.826**									
GTK	0.636	0.686	0.459	0.647	**0.932**								
INT	0.643	0.660	0.392	0.689	0.643	**0.935**							
MMR	0.754	0.737	0.503	0.759	0.595	0.631	**0.842**						
PBC	0.755	0.712	0.315	0.814	0.572	0.628	0.693	**0.909**					
PEOU	0.291	0.326	0.646	0.278	0.320	0.270	0.397	0.263	**0.849**				
PI	0.755	0.738	0.432	0.720	0.589	0.620	0.778	0.654	0.295	**0.846**			
PU	0.640	0.661	0.610	0.608	0.678	0.559	0.674	0.562	0.505	0.605	**0.854**		
SE	0.738	0.682	0.422	0.710	0.595	0.546	0.682	0.655	0.317	0.680	0.559	**0.911**	
SN	0.771	0.718	0.364	0.783	0.564	0.596	0.755	0.737	0.250	0.737	0.630	0.699	**0.906**

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In comparison to the traditional assessment methods including Fornell-Larcker criterion, it was suggested by Henseler et al. (2015) that the heterotrait-monotrait (HTMT) ratio exhibited the superior criterion in the recent years. In the validity process of this study, this second phase involved the examination of discriminant validity via HTMT ratio. To establish discriminant validity, previous studies suggested construct thresholds of 0.85 and 0.9 for HTMT (Henseler et al., 2015; Rasoolimanesh, Roldán, Jaafar, & Ramayah, 2016). The study results indicated that all the values ranged from 0.307 to 0.930, as shown in Table 4.20. Therefore, the statistical results fulfilled the criteria suggested by Henseler et al. (2015), in which all the values of HTMT ratio amounted to 0.90.

Table 4.20:
Heterotrait-Monotrait Ratio (HTMT)

CONSTRUCT	ATP	ATT	COMP	FC	GTK	INT	MMR	PBC	PEOU	PI	PU	SE	SN
ATP													
ATT	0.820												
COMP	0.444	0.486											
FC	0.930	0.832	0.429										
GTK	0.712	0.778	0.515	0.771									
INT	0.686	0.709	0.419	0.772	0.725								
MMR	0.801	0.790	0.549	0.848	0.667	0.675							
PBC	0.820	0.787	0.343	0.927	0.657	0.688	0.753						
PEOU	0.307	0.348	0.696	0.314	0.361	0.287	0.433	0.286					
PI	0.808	0.802	0.463	0.811	0.667	0.670	0.834	0.717	0.315				
PU	0.689	0.722	0.662	0.694	0.773	0.606	0.737	0.622	0.547	0.657			
SE	0.801	0.751	0.458	0.818	0.682	0.598	0.744	0.730	0.344	0.747	0.618		
SN	0.822	0.776	0.388	0.874	0.634	0.641	0.805	0.809	0.266	0.794	0.683	0.766	

Table 4.21:
Measurement Model Assessment (Outer MODEL)
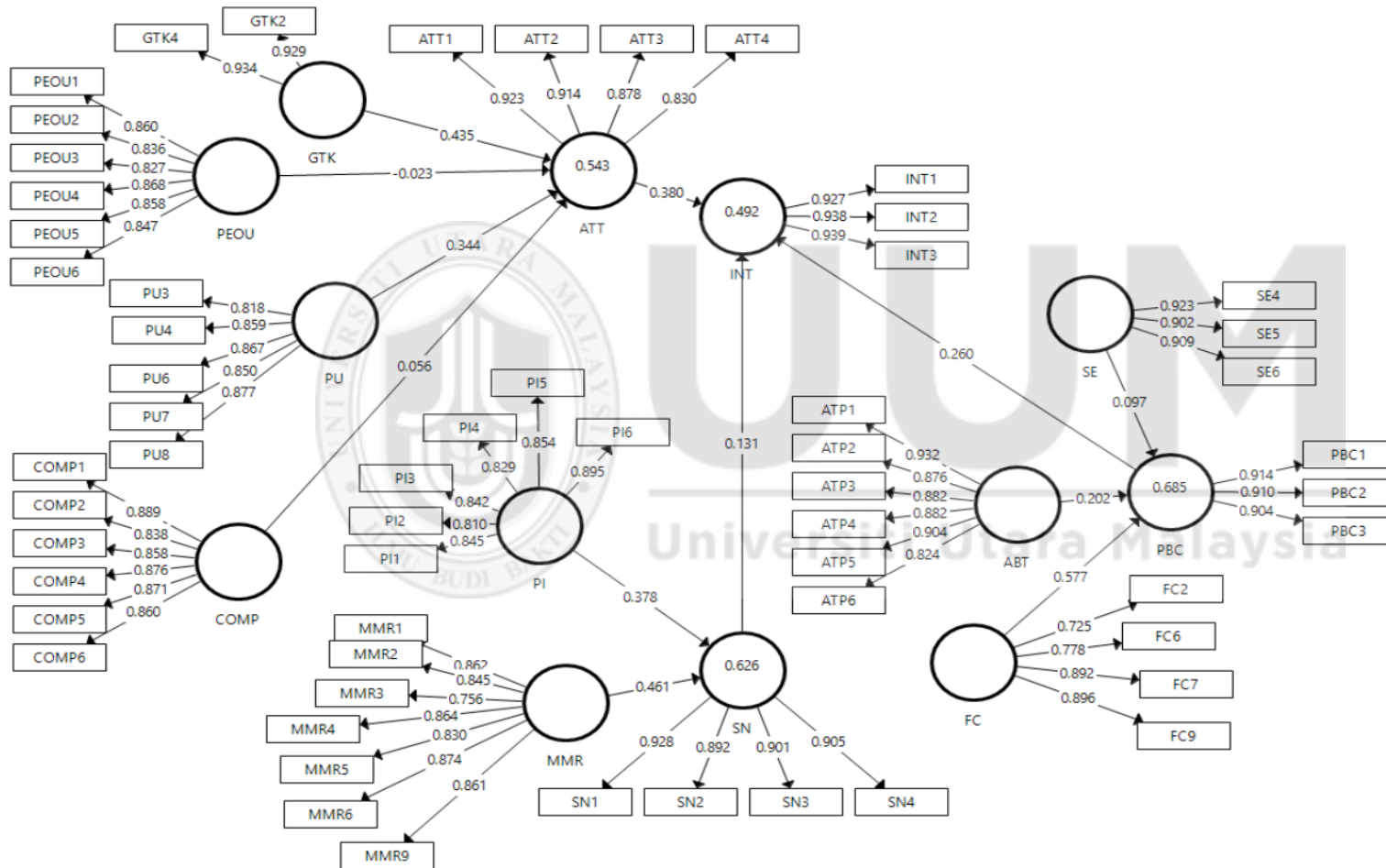
Table 4.21 illustrates the results of outer model assessments based on all the reliable indicators, which were used as shown in Table 4.16. A total of 19 items that were within the acceptable range were removed accordingly. Based on the valid and reliable items, the factor loading significant level of this study was lower than 0.01, with outer loading values being higher than 0.70, as shown in Table 4.17. Furthermore, all the items used presented the composite reliability values of more than 0.70, with AVE values of above 0.50, as illustrated in Table 4.18. In addition, Fornell-Larcker Criterion and heterotrait-monotrait (HTMT) ratio assessments were used to validate the outer model construct validity. As shown in Table 4.19 and Table 4.20, the results of the discriminant validity tests confirmed the construct validity. Overall, the items used were valid and reliable, which resulted in a 49.2% of predictiveness accuracy. It could be seen in Table 4.20 that the path coefficient results were further explained in Paragraph 4.7.6.

4.5 Structural Model Assessment (Inner MODEL)

After the establishment of the outer model's reliability and validity in previous sections, several procedures were performed to assess the inner model hypothesised relationships. In the aspect of PLS-SEM, the model quality assessment is based on its predictive ability on endogenous constructs. Hair, Sarstedt et al. (2014) stated that that the predictive ability could be established through the fulfilment of the following criteria, which would also be discussed in the next sections:

   i. Assessment of collinearity issues

   ii. Structural model relationships significance and relevance assessment

   iii. Coefficient of determination (R^2)

   iv. Cross-validated redundancy (Q^2)

v. Effect size (f²)

4.5.1 Assessment and Treatment of Collinearity Issues

The collinearity issue takes place when the two constructs are highly correlated (Hair, Hult, et al., 2014). These problems arise in the estimation of regression coefficients when the sets of independent variables could be predicted or nearly predicted by other independent variables. The b and b weights would be affected by these variables and might not be well estimated, considering that minor variations including measurement errors or sample errors would have significant impact on the weights. Meanwhile, the common indicators of collinearity issues include the large value of variance inflation factor (VIF). Given that all indicators in this study were reflective, inner VIF was examined for collinearity issues. Any individual VIF with a value of higher than 5 should be re-examined (Hair et al., 2017, 2011). In this study, the inner VIF values were within the acceptable values of lower than 5, as shown in Table 4.22. Therefore, no collinearity issues were present among the independent variables of this study.

Table 4.22:
Inner VIF Values

CONSTRUCT	ATP	ATT	COMP	FC	GTK	INT	MMR	PBC	PEOU	PI	PU	SE	SN
ATP								3.838					
ATT						2.429							
COMP		2.133											
FC								3.527					
GTK		1.873											
INT													
MMR													2.531
PBC						2.582							
PEOU		1.789											
PI													2.531
PU		2.434											
SE								2.346					
SN						2.624							

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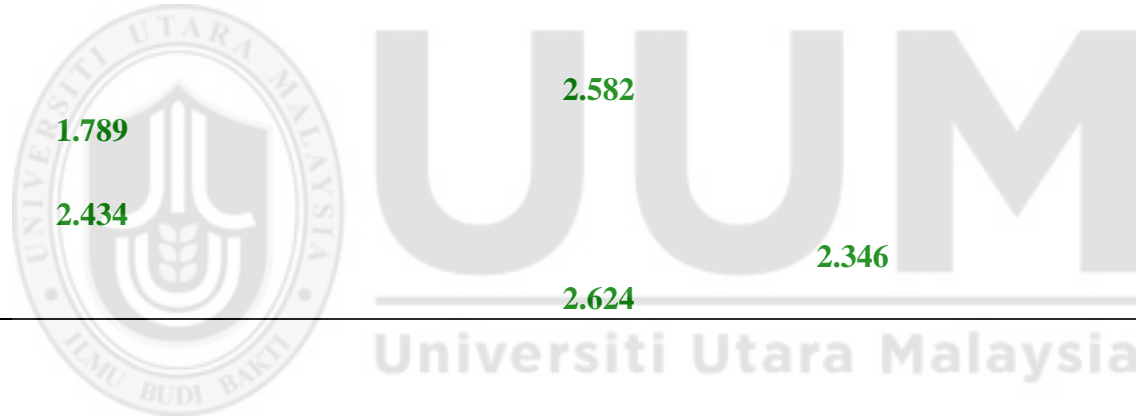
4.5.2 Coefficient of Determination (R²)

According to Hair, Sarstedt, et al., (2014), R² represents the measure of predictive accuracy of the model. Alternatively, it could be seen that R² is represented by the exogenous variable combination effect on the endogenous variables. The value of R² ranged from 0 to 1, with complete predictive accuracy of 1. As a reliance on a rule of thumb for the acceptable value of R², the respective values of 0.75, 0.50, and 0.25 can be considered substantial, moderate, or weak in its predictive accuracy (Hair et al., 2011; Henseler et al., 2009). However, Hair, Sarstedt et al. (2014) argued that extreme reliance on R² could lead to problems, which are followed by the selection of less efficient model. Therefore, it was recommended that the adjusted R² is used when deciding a model as it penalises for the increase in model's complexity by reducing the adjusted R². The results of this study indicated that the model showed predictive accuracy, as shown in Table 4.23.

Table 4.23:
Coefficient of Determination Values (R²)

Endogenous Construct	R Square	R Square Adjusted
Voluntary Tax Compliance Intention	0.492	0.487
Attitude	0.543	0.537
Subjective Norm	0.626	0.624
Perceived Behavioural Control	0.685	0.682

The four endogenous constructs in this study, namely voluntary tax compliance intention, attitude, subjective norm, and perceived behavioural control, presented the respective R² values of 0.492, 0.543, 0.626, and 0.685. Based on the suggested rule of thumb by Hair et al. (2011) and Henseler et al. (2009), this study showed substantial R² values.

4.5.3 Cross-validated redundancy (Q²)

Similar to R², Henseler, Hubona, and Ray (2016) recommended the use of Q² value (Geisser, 1974; Stone, 1974) in examining the predictive relevance of inner model. As for Smart PLS, Q² value was obtained using the blindfolding procedure and involved systematic pattern data point elimination, which depended on the selected omission distance to perform the procedure. According to Hair, Sarstedt, et al. (2014), Q² represents the assessment of inner model predictive relevance based on sample re-use technique that omits data matrix partially, estimates model parameters, and predicts omitted portion using the estimates. This condition indicates the ability of PLS-SEM to accurately predict the data matrix of indicators in reflective model measure endogenous constructs, which include endogenous single item construct. The smaller difference between original values and predicted values offers higher Q² values, indicating the model predictive accuracy, particularly if Q² value is higher than zero for any endogenous construct. Chin (2010) highlighted various types of Q² are present depending on the targeted prediction form. In addition, Chin (2010) stated that Q² values of higher than 0.50 indicate a predictive model. In this study, the predictive quality of four indicators included voluntary tax compliance intention, attitude, subjective norm, and perceived behavioural control. According to Hair et al. (2018), the rule of thumb for Q² with values of higher than 0, 0.25, and 0.50 represents small, medium, and large predictive relevance of PLS-path model. However, the comparisons of Q² are the indicators for endogenous construct prediction, although it is not the case for the quality of the prediction (Rigdon, 2014; Sarstedt, Ringle, Henseler, & Hair, 2014).

Table 4.24:
Predictive Quality Indicators of the model (Q²)

Endogenous Construct	R Square	Construct Cross-validated Communality	Construct Cross-validated Redundancy
Voluntary Tax Compliance Intention	0.492	0.698	0.422
Attitude	0.543	0.629	0.416
Subjective Norm	0.626	0.615	0.508
Perceived Behavioural Control	0.685	0.683	0.559

The above results demonstrated the quality of model prediction for this study. Table 4.24 demonstrates that all the construct cross-validated redundancies were above zero. The above results were in line with Hair et al. (2018), where the Q² values should exceed zero for one specific endogenous construct to indicate the structural model predictive accuracy for the construct. Hence, the cross-validated redundancy results in Table 4.24 indicated that all the constructs comprised either medium or large predictive relevance of model path.

4.5.4 Effect Size (f²)

Besides the assessment of R² values in this study for all endogenous constructs, the changes in R² values in the selected exogenous construct were omitted from the model, while the deleted constructs would impact the endogenous constructs (Hair, Sarstedt, et al., 2014). To identify whether any changes to R² brought substantial influence on the dependent latent variable, the effect size computation was performed. Each path model effect size could be performed by computing Cohen's f². The formula for effect size is as follows:

$$f^2 = \frac{R^2_{included} - R^2_{excluded}}{1 - R^2_{included}}$$

The above formula, R², represents the R² value of endogenous construct where exogenous construct is included, while the R² excluded represents R² value for endogenous construct where exogenous constructs is eliminated. According to Cohen (1988), the f² values could be defined in the manner where 0.02 is considered small, 0.15 is considered medium, and 0.35 is considered large.

The scores of f² values in this study are tabulated in Table 4.25. The results indicated that Attitude (ATT) was mostly formed by the General Tax Filing Knowledge (GTK), while Compatibility (COMP) and Perceived Ease of Use (PEOU) showed lesser effect on ATT and the Perceived Usefulness (PU) showed a moderate effect on ATT. In the case of Subjective Norm (SN), the results indicated that SN was majorly formed by Peer Influence (PI) and Mass Media Referent (MMR), while the Perceived Behavioural Control (PBC) showed mixed results in the effect size computation. Moreover, Self-Efficacy (SE) was recorded with the smallest effect, while Ability To Pay (ATP) was recorded with the medium effect, and Facilitating Conditions (FC) was recorded with the strongest effect on PBC. As seen in Table 4.25, the majority of the f² values presented some impacts with the exception of COMP > ATT at 0.003, PEOU > ATT at 0.001, SE > PBC at 0.010, and SN > INT at 0.013, which indicated lesser effect amongst exogenous latent variables.

Table 4.25:

f Square (f²)

CONSTRUCT	ATP	ATT	COMP	FC	GTK	INT	MMR	PBC	PEOU	PI	PU	SE	SN
ATP								0.034					
ATT						0.117							
COMP		0.003											
FC								0.300					
GTK		0.221											
INT													
MMR													0.224
PBC						0.052							
PEOU		0.001											
PI													0.151
PU	0.107												
SE								0.013					
SN						0.013							
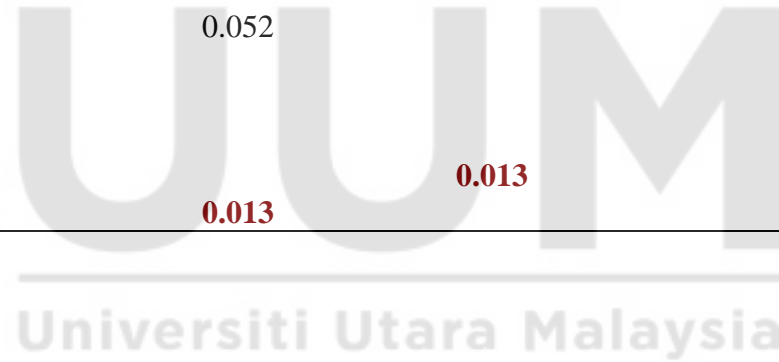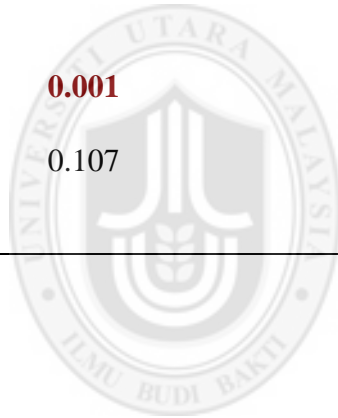
4.5.5 Overall model's Goodness of fit (GoF)

The global model fit measure for PLS-SEM is through the establishment of Goodness of Fit (GoF) (Hair, Black et al., 2014). Essentially, only one measure of GoF for variance-based SEM is present compared to the covariance-based SEM. Previous study proposed a global PLS GoF to cater for diagnostic testing instead of formal model testing (Tenenhaus, Vinzi, Chatelin, & Lauro, 2005). Given the previous use of R^2 as a model evaluation in this study, the GoF serves as the model diagnostic.

The GoF is defined as "the geometric mean of the average communality and the average R^2" (Tenenhaus et al., 2005, p. 173). As the communality is equal to AVE for PLS path modelling approach, Wetzels, Odekerken-Schröder, and Van Oppen (2009) agreed to Fornell and Larcker (1981) by proposing 0.50 as cut-off value for communality. In addition, Wetzels et al. (2009) suggested the substitution of the 0.50 minimum average of AVE and R^2 effect sizes with GoF criteria of 0.10 (small), 0.25 (medium), and 0.36 (large) as the baseline values in validating the global PLS model. The following formula was suggested by Wetzels et al. (2009) to estimate the GoF value in PLS path modelling.

$$Goodness\ of\ Fit\ (GoF) = \sqrt{(AVE * R^2)}$$

The GoF value ranges from 0 to 1 (Tenenhaus et al., 2005). Table 4.26 below illustrates the GoF value for this study's model.

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Table 4.26:
Goodness of Fit

Details	R Square	Average Variance Extracted (AVE)
Voluntary Tax Compliance Intention	0.492	0.874
Attitude	0.543	0.787
Subjective Norm	0.626	0.822
Perceived Behavioural Control	0.685	0.827
AVERAGE	0.587	0.828
Goodness of Fit		**0.708**

Based on the above computation, the value GoF was 0.708, which was considered large. Therefore, it could be concluded that the model of this study showed better performance compared to the baseline values.

4.5.6 Path Coefficient

In PLS-SEM, path coefficient is used to examine the relationship strength between independent and dependent variables. To test the hypothesised relationships, this study employed the bootstrapping technique, which was available in Smart PLS software. Bootstrapping is a popular non-parametric approach to assess the direct and indirect effects (Mackinnon, Lockwood, & Williams, 2004). It is also known for its use as a resampling strategy to perform estimation and hypotheses testing. According to Hair Jr et al. (2016), bootstrapping or resampling techniques are performed for the path coefficient of the hypothesised relationships between the constructs. The bootstrapping procedure generates t-values for the evaluation of path coefficient significance level in the research model (Hair Jr et al., 2016). As stated by Hair, Sarstedt, et al. (2014), path coefficient values ranged from -1 to +1, where coefficient values near to +1 represented strong positive relationships, while coefficient values closer to -1 showed a strong negative relationship.

The PLS algorithm and bootstrapping were performed to obtain path coefficient. The bootstrapping of 500 samples was larger compared to the actual sample size of 303 samples to meet the condition, as per Hair Jr et al.'s (2016) suggestion. All direct and indirect relationships of the variables, be it the independent or dependent variables, were examined for relationship confirmations. As shown in Table 4.30, the path coefficient represented by β value and t-values for significance result was generated through the bootstrapping techniques in testing the H1-H12 hypotheses. The following Table 4.27 illustrates the direct effect of the structural model.

Table 4.27:
Direct Relationship Inner Model Results

Hypothesis	Hypothesized Effect	Path Coefficient (β value)	Standard Deviation	T Statistics	P Values	Decision
H1a	ATT -> INT	0.380	0.086	4.411	0.000	Supported
H1b	SN -> INT	0.131	0.085	1.545	0.123	Not Supported
H1c	PBC -> INT	0.260	0.104	2.504	0.013	Supported
H1a2a	GTK -> ATT	0.435	0.074	5.879	0.000	Supported
H1a2b	PU -> ATT	0.344	0.079	4.383	0.000	Supported
H1a2c	PEOU -> ATT	-0.023	0.056	0.414	0.679	Not Supported
H1a2d	COMP -> ATT	0.056	0.060	0.921	0.357	Not Supported
H1b3a	PI -> SN	0.378	0.073	5.169	0.000	Supported
H1b3b	MMR -> SN	0.461	0.074	6.252	0.000	Supported
H1c4a	SE -> PBC	0.097	0.062	1.550	0.122	Not Supported
H1c4b	FC -> PBC	0.577	0.092	6.264	0.000	Supported
H1c4c	ATP -> PBC	0.202	0.101	2.003	0.046	Supported

As shown in Table 4.21 and Table 4.27, the inner structural model results demonstrated that the majority of the hypotheses of H1 and H12 were supported, with H3, H4, H7, and H11 as exceptions. Two out of four hypotheses of H1, H2, H3, and H4 were supported as H1 and H2, in which attitude was positively influenced by general tax

filing knowledge ($\beta = 0.435$, t = 5.879, and p < 0.01) and perceived usefulness ($\beta = 0.344$, t = 4.383, and p < 0.01). However, the results of H3 and H4 were not supported. Furthermore, subjective norm was supported by both peer influence (H5) and mass media referent (H6). Peer influence had a significant positive influence on subjective norm, with the results of $\beta = 0.378$, t = 5.169, and p < 0.01, while mass media showed positive significant result on subjective norm with the results of $\beta = 0.461$, t = 6.252, and p < 0.01. In contrast, no significant relationship was present between self-efficacy and perceived behavioural control, with the results $\beta = 0.097$, t = 1.550, and p > 0.1. Thus, H7 was not supported. However, H8 and H9 were supported, in which the behavioural control was significantly and positively influenced by both facilitating conditions ($\beta = 0.577$, t = 6.264, and p < 0.01) and ability to pay ($\beta = 0.202$, t = 2.003, and p < 0.05). The results also demonstrated that H10 was supported, given the positive influence of attitude on voluntary tax compliance intention with the results of $\beta = 0.380$, t = 4.411, and p < 0.01. In contrast, provided that no significant relationship was present between subjective norm and voluntary tax compliance intention ($\beta = 0.131$, t = 1.545, and p > 0.1), H11 was not supported. Nevertheless, H12 was supported due to the positive significant influence of perceived behavioural control on voluntary tax compliance intention with the results of $\beta = 0.260$, t = 2.504, and p < 0.05.

4.6 CHAPTER SUMMARY

This study was prediction-oriented, with the objective of theory development through the usage of PLS-SEM towards the establishment of hypotheses results. The analyses started with the descriptive results of the study variables and the respondents' profiling, which was obtained through SPSS v23. This was followed by the evaluation of

measurement model, which was referred to as an outer model assessment in Smart PLS. The evaluation was performed through the validity and reliability tests. Furthermore, the model was supported by its predictive power and goodness of fit of the total model. Overall, all the assessment criterions by Hair, Black et al. (2014), Hair et al. (2011), Hair Jr et al. (2016), and Henseler et al. (2009) were fulfilled. Subsequently, the structural model was examined to test the hypothesised relationships. As a result, 10 out of 12 hypotheses were supported, while two hypotheses were rejected. Finally, a summary of hypotheses results was interpreted and discussed according to the acquired results. The key findings and study contributions will be presented in the next chapter.

CHAPTER 5

RECOMMENDATIONS AND CONCLUSION

5.1 Introduction

In this chapter, the key findings obtained in this study, the contributions, implications, limitations, future recommendations, and conclusion are presented in this chapter. This chapter begins with the summary of study, discussions of key findings, theoretical contributions, managerial implications, and limitations of this study. This is followed by suggestions for future research. This chapter ends with the conclusion of this study.

5.2 Summary of Study

Tax administrative around the world is constantly faced with problems in voluntary tax compliance issues. Although many tax administrators have shifted to technology-based income tax return submissions, most of the previous studies focused on taxpayer's acceptance and use of the electronic tax submissions that utilised technology acceptance theories. With the increase in the utilisation of electronic income tax filing mode, fewer studies focused on the current individual taxpayers' voluntary tax compliance behaviour. Therefore, the current compliance studies overlooked certain factors that could lead to intentional non-compliance and tax evasions.

The increasing importance of individual income tax as the federal government main revenue leads to the need to understand the individual taxpayer's voluntary tax compliance behaviour. The direct tax collection from individuals that reached RM31.9 billion was second to the corporate tax of RM68.8 billion in 2017. If the voluntary tax compliance behaviour of individual taxpayers is not addressed, the federal government revenue and its national development programmes would be significantly affected. Hence, a better understanding of individual taxpayer's beliefs and attitude towards voluntary tax compliance behaviour is required for improvements.

With an aim to examine the individual taxpayer's intention towards voluntary tax compliance via e-filing system, this quantitative study was performed to answer five key research questions: (1) do attitude, subjective norm, and perceived behavioural control significantly predict the voluntary tax compliance intention among individual taxpayers via e-filing system?; (2) do the dimensions of perceived usefulness, perceived ease of use, and general tax filing knowledge significantly affect individual taxpayer's attitude towards voluntary tax compliance intention via e-filing system?; (3) do the dimensions of peer influence and mass media referents significantly affect individual taxpayer's subjective norm towards voluntary tax compliance intention via e-filing system?; (4) do the dimensions of self-efficacy, facilitating conditions, and ability to pay significantly determine individual taxpayer's perceived behavioural control towards voluntary tax compliance intention via e-filing system?; and (5) can Decomposed Theory of Planned Behaviour (DTPB) explain individual taxpayer's voluntary tax compliance intention via e-filing system?.

The research framework was underpinned through Decomposed Theory of Planned Behaviour (DTPB) model. Following that, extensive review was made on the literature works from previous studies to obtain the operationalisation of the research model through adaptation and adoption of valid and reliable measurement scales available in the studies. These valid and reliable scales that utilised the 7-point Likert scale were validated through statistical and non-statistical tests, which were conducted during pre-test and pilot test. Data collection was conducted with the representatives in the selected headquarters of renowned offices and ministerial departments in Klang Valley. Collected data was screened for inner model and outer model evaluations. Furthermore, IBM SPSS v23 was utilised to screen the outliers and descriptive analyses. This was followed by the use of Smart PLS 3.2.8 software for the evaluation of outer model, content validity, factor loading, convergent validity, and discriminant validity. The computation of effect size and predictive relevance was included, followed by estimation of universal goodness of fit (GoF), which resulted in the inner structural model used for hypothesis testing. As a result, this study achieved variances of 54.3%, 62.6%, and 68.5% for attitude, subjective norm, and perceived behavioural control, respectively. These variables were able to illustrate 49.2% variance in behavioural intention compared to the original 60% variance, as recorded by Taylor and Todd (1995c). Overall, all the hypothesised relationships involved direct paths.

Table 5.1:
Summary of Results

Research Question	Research Objective	Hypotheses	Path Coefficient (β value)	P Values	Results	Accept/ Reject
Do attitude, subjective norm, and perceived behavioural control significantly predict the voluntary tax compliance intention among individual taxpayers via e-filing system?	To examine the relationships of attitude, subjective norm and perceived behavioural control, and individual taxpayer's voluntary tax compliance intention via e-filing system	H1a	0.380	**0.000**	**Supported**	**Accept**
		H1b	0.131	**0.123**	Not Supported	Reject
		H1c	0.260	**0.013**	**Supported**	**Accept**
Do the dimensions of perceived usefulness, perceived ease of use and general tax filing knowledge significantly affect individual taxpayer's attitude towards voluntary tax compliance intention via e-filing system?	To examine the relationship between the dimensions of general tax filing knowledge, perceived usefulness, perceived ease of use and compatibility on individual taxpayer's attitude towards voluntary tax compliance intention via e-filing system	H1a2a	0.435	**0.000**	**Supported**	**Accept**
		H1a2b	0.344	**0.000**	**Supported**	**Accept**
		H1a2c	-0.023	**0.679**	Not Supported	Reject
		H1a2d	0.056	**0.357**	Not Supported	Reject
Do the dimensions of peer influence and mass media referents significantly affect individual taxpayer's subjective norm towards voluntary tax compliance intention via e-filing system?	To examine the relationship between the dimensions of peer influence and mass media referent on subjective norm	H1b3a	0.378	**0.000**	**Supported**	**Accept**
		H1b3b	0.461	**0.000**	**Supported**	**Accept**
Do the dimensions of self-efficacy, facilitating conditions, and ability to pay significantly determine individual taxpayer's perceived behavioural control towards voluntary tax compliance intention via e-filing system?	To examine the relationship between the dimension of self-efficacy, facilitating conditions, and ability to pay on perceived behavioural control	H1c4a	0.097	**0.122**	Not Supported	Reject
		H1c4b	0.577	**0.000**	**Supported**	**Accept**
		H1c4c	0.202	**0.046**	**Supported**	**Accept**

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Table 5.1 presents all the relevant research questions, research objectives, the hypotheses involved, and the outcomes for this study. It was also indicated from the table that most of relationships were significant except for perceived ease of use, compatibility, self-efficacy, and subjective norm. Future studies were suggested to re-examine these dimensions for improved understandings due to timing differences. Figure 5.1 below illustrates the revised framework from the study findings.
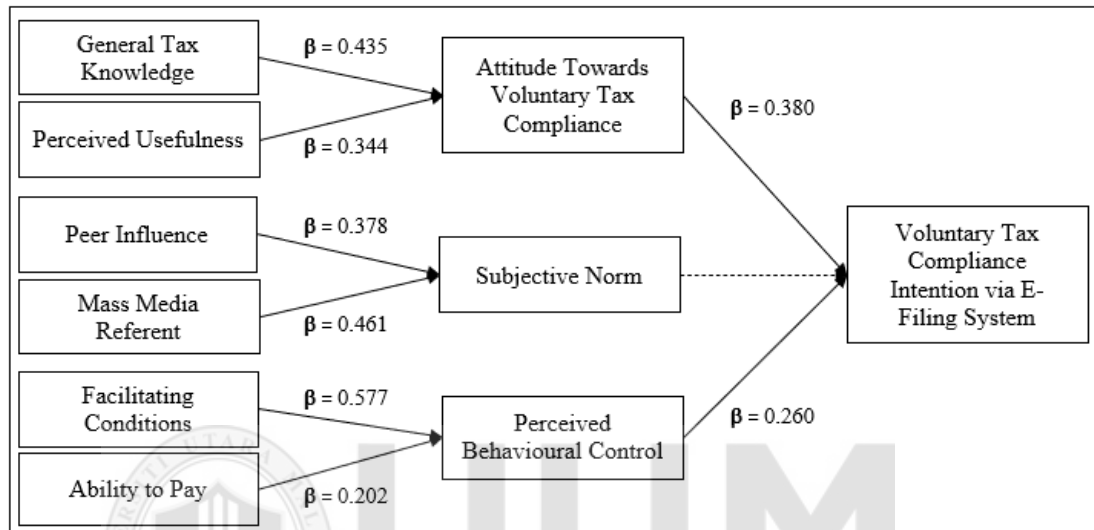
Figure 5.1:
Revised Research framework

5.3 Discussion of Findings

In this study, the achievement of research objectives could identify and explain the antecedents influencing individual taxpayers towards voluntary tax compliance intention. Subsequently, the following sections supported and discussed the reasons for achieving the results of voluntary tax compliance intention among individual taxpayers. As highlighted in the previous chapter, the key findings based on research objectives towards answering the research questions are summarised in following sections.

5.3.1 Discussion of First Objective

This paragraph discusses the study first objective, which is to examine the relationships of attitude, subjective norm, perceived behavioural control, and individual taxpayer's voluntary tax compliance intention via e-filing system. As discussed in previous sections, prior to the extended TPB of DTPB, the TPB model was employed in numerous studies in various settings. Therefore, the TPB was proven for its robustness and explanatory power. Previous studies indicated that the three main constructs consisting attitude, subjective norm, and perceived behavioural control in the TPB model resulted in significant relationships. Although DTPB has been used in various settings as the extended TPB, less information was present regarding the usage of DTPB in voluntary tax compliance setting. However, the past results of DTPB studies indicated that it offers clearer explanation of behavioural intention with its decomposed multidimensions.

The results indicated that two out of three main constructs were significant, as shown in Table 5.1. It was found that attitude and perceived behavioural control had significant impact on voluntary tax compliance intention, while subjective norm was found to be insignificant towards voluntary compliance intention. Hence, the first research question, research objective, and research hypotheses were answered and achieved. Detailed explanations are discussed in the following subsections.

5.3.1.1 The relationships of attitude and individual taxpayer's voluntary tax compliance intention via e-filing system.

The results of this study demonstrated the tendency in the attitude of individual taxpayers towards the formation of voluntary tax compliance intention. The mean value of each item in this variable indicated similar high range (Table 4.3). The overall mean value of 6.7451 and standard deviation of 0.46228 indicated the taxpayers' strong support towards voluntary tax compliance intention. Besides, the variance value presented 93.204% in the formation of the attitude variable.

In this study, the construct of attitude was found to have significant relation to intention, with a positive β value of 0.380 and significant p value of 0.000 obtained as a result of the conducted test (Table 5.1). The result for the significance of attitude on intention was similar to the results from past studies (Damayanti, 2012; Hung et al., 2006; Maharani et al., 2017; Rana, Dwivedi, Lal, & Williams, 2015). Furthermore, past studies identified attitude as a major factor of an individual's behaviour towards intention. Therefore, the variable of attitude's consistencies with the TPB model by Ajzen (1991) and DTPB model by Taylor and Todd (1995b, 1995c) was proven. Notably, an individual's attitude brings strong implications towards his or her behaviour, which could be positive or negative. A change in one's intention occurs in-line with the changes in one's attitude towards a situation. Overall, higher tendency of positive attitude indicates stronger intention towards voluntary tax compliance.

5.3.1.2 The relationships of subjective norm and individual taxpayer's voluntary tax compliance intention via e-filing system.

Subjective norm is an important variable of TPB and DTPB theories, which could directly influence one's behavioural intention. The respondents in this study demonstrated strong importance of subjective norm with high range of mean values for each item (Table 4.8). The overall mean value for subjective norm amounted to 6.6651, with standard deviation of .52733. In addition, the variance value of 94.726% (Table 3.5) proved that all items were equally important factors in the formation of subjective norm. Overall, the results have demonstrated the importance of subjective norm towards voluntary tax compliance intention.

It was hypothesised in this study that subjective norm is positively related to voluntary tax compliance intention. However, the acquired results did not support the aforementioned hypothesis with positive β value of 0.131 and a nonsignificant p value of 0.123 (Table 5.1). Subjective norm was found to be insignificantly related to voluntary tax compliance intention. This finding was in line with several previous tax studies by Wu and Chen (2005), Marthadinasyah et al. (2014), Tarmidi and Waluyo (2017), and Lesmana, Panjaitan and Maimunah (2018). It was indicated that although Malaysian taxpayers could consider all available information regarding taxation obtained from media or peers, reconsideration may be required regarding their responsibility over their taxes. Fu et al. (2006) found that electronic tax filers comprised better mental and cognitive capacity. It was also indicated that taxpayers may have more confidence in using the e-filing systems.

The findings of this study were in contrast to the study by Damayanti (2012) who found subjective norm to be a significant factor of behavioural intention in Indonesia. This finding may be attributed to the difference in culture, geographical conditions, and availability of infrastructure of both countries. Similarly, several past results indicated that subjective norm was significant (Huda, Rini, Mardoni, & Putra, 2012; Saad, Farouk, & Abdul Kadir, 2020; Taing & Chang, 2021). Furthermore, the timing of data collections may be a considerable factor of mixed results. Garcia, Opromolla, Vezzulli, and Marques (2018) highlighted the importance of considering the impact of tax information conveyed between taxpayer's behaviour and the group's behaviour, in which the information about it has been presented. This factor also indicated the influence of the strongly connected group on taxpayer's behaviour. Hence, the mixed past results presented further arguments and future understandings of subjective norm construct.
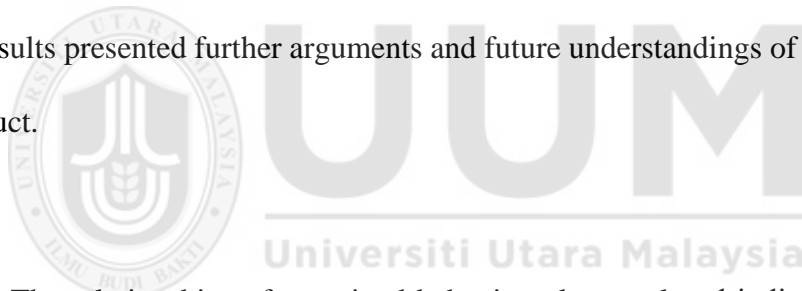
5.3.1.3 The relationships of perceived behavioural control and individual taxpayer's voluntary tax compliance intention via e-filing system.

Another important variable in the TPB and DTPB models is perceived behavioural control. The descriptive analyses demonstrated that perceived behavioural control was strongly supported by the respondents with its significant items used for this study. As a result, the overall mean of 6.7228 and standard deviation of 4.6522 (Table 4.11) with variance value of 90.527% (Table 3.5) were acquired. This result demonstrated the importance of perceived behavioural control towards voluntary tax compliance intention.

It was theorised that perceived behavioural control is the vital determinant of voluntary tax compliance intention. In this study, the construct of perceived behavioural control was found to have a significant relationship with intention. The regression tests resulted in a positive significant value (p = 0.013) with β value of 0.260 towards the intention of voluntary tax compliance (Table 5.1). The significance of perceived behavioural control on intention was similar to the results of past studies (Damayanti, 2012; Hung et al., 2006; Maharani et al., 2017; Rana, Dwivedi, Lal, & Williams, 2015). In conclusion, the taxpayers had an opinion that the access to available resources was important for the voluntary tax compliance intention. The facilitating resources should meet the requirements of tax laws and provide ease for taxpayers with informative and flexible usage. Hence, IRBM should encourage taxpayers to come forward voluntarily through the facilitation of various flexible resources to ease the control behaviour of taxpayers.

5.3.2 Discussions of Second Objective

The second objective of the study was related to the dimensions of attitude, which involved the general tax filing knowledge, perceived usefulness, perceived ease of use, and compatibility. These dimensions were examined in this study. The outcome of these dimensions are discussed in the following sections.

5.3.2.1 Dimensions of general tax filing knowledge on individual taxpayer's attitude towards voluntary tax compliance intention via e-filing system.

In the era of Self-Assessment System (SAS), taxpayers are required to understand the basic requirements for filing income tax return form. The taxpayers are required to obtain the necessary knowledge to operate the e-filing system with some knowledge on claimable items. The ease of computing and submitting the electronic income tax form only requires a click on the selected icons. Hence, taxpayers are also required to understand their right and responsibilities as a taxpayer, which contributes to the building of the nation.

It was hypothesised in this study that general tax filing knowledge is positively related to the attitude towards voluntary tax compliance intention. The regression test results presented a positive significant value (p = 0.000) with β value of 0.435 for the attitude (refer Table 5.1). As indicated in the study results, general tax filing knowledge had a significant influence on taxpayer's attitude. This result was in line with past studies (Lobont et al., 2013; Loo et al., 2009). Similarly, Md Husin and Ab Rahman (2016) found that knowledge had a significant relationship with attitude. However, the taxpayers acknowledged the significance of e-filing as an electronic mode of income tax form and the receipt after successful submission of the electronic income tax form. This finding proved that taxpayers were willing to comply and submit income tax form without having the knowledge of other tax filing requirements.

Tax administrators should constantly dedicate various educational efforts, such as e-filing system knowledge, updates on user-friendly interfaces, and software supports through mass media to ensure its effectiveness in public support policy efforts (Chu &

Wu, 2004) and encourage voluntary tax compliance among taxpayers. In the case of the taxpayers, the knowledge of e-filing system usage and acknowledgement of receipt holds the highest importance in the voluntary tax compliance intention. Hence, imparting knowledge and sharing updated information are vital in engaging taxpayers towards voluntary tax compliance.

5.3.2.2 Dimensions of perceived usefulness on individual taxpayer's attitude towards voluntary tax compliance intention via e-filing system.

As indicated in the results, the taxpayers acknowledged the importance of e-filing usefulness in their attitude towards the voluntary compliance with tax laws. Perceived usefulness was found to be significant on individual taxpayer's attitude towards voluntary tax compliance intention via e-filing system. The findings were in line with the results of past studies (Chu & Wu, 2004, 2005; Rana, Dwivedi, Lal, & Williams, 2015). Hence, the taxpayers agreed that it was advantageous to file income tax form through e-filing system. However, the taxpayers did not agree that filing income tax form electronically increased their job performance. This result led to the possibility for taxpayers to use e-filing system to perform their duty as a law-abiding citizen, which was in contrast to the tax preparers or tax agents whose job is to prepare and submit income tax forms for their clients. In this case, the usage of e-filing system would increase their job performance.

5.3.2.3 Dimensions of perceived ease of use on individual taxpayer's attitude towards voluntary tax compliance intention via e-filing system.

As hypothesised in this study, perceived ease of use was positively related to the attitude towards voluntary tax compliance intention. Nevertheless, previous studies presented mixed results of perceived ease of use towards behavioural intention. It was also found that perceived ease of use was not significant on the attitude towards voluntary tax compliance intention via e-filing system. Generally, the respondents strongly agreed that perceived ease of use influenced the attitude towards voluntary tax compliance intention with a mean score of 6.4356 and standard deviation of 0.57581. Meanwhile, regression tests demonstrated an insignificant p value of 0.679 (β = -0.023). The findings were consistent with the previous studies by Carlet (2015), Yadav, Sharma, and Tarhini (2016), Perangin-angin, Respati, and Kusumawati (2016), and Kala, Wamba, and Yombia (2017). It was stated by Fu et al. (2006) that electronic tax filers had better mental and cognitive capacity in the use of electronic tax filing systems. Therefore, electronic taxpayers may possess confidence in operating the e-filing systems. Besides, many of the electronic tax filers are more internet savvy.

It was indicated that taxpayers did not agree to the use of e-filing system for effortless filing of income tax form. Taxpayers may require additional features to assist their understanding and obtain further clarifications to reach the completion of income tax form submissions. Additional information icons are required to further explain the requirements. Effective and user-friendly automated responders could be implemented to provide timely assistance for round the clock or after office hours enquiries. Taxpayers do not perceive pleasant, fun, and enjoyable feelings upon the use of e-filing system due to the fact that voluntary tax compliance is a mandatory duty.

Therefore, submitting income tax form is required regardless of their preferences. The automated programmed responders could assist taxpayers to some extent, especially after office hours.

5.3.2.4 Dimensions of compatibility on individual taxpayer's attitude towards voluntary tax compliance intention via e-filing system.

Compatibility of software assists the taxpayers in interacting with tax administrators for tax declarations and payments, or in obtaining information electronically from home or offices. In this study, it was found that compatibility was not significant in the attitude towards voluntary tax compliance intention via e-filing system. Despite the high mean (6.4923) and standard deviation (0.54603) values of compatibility with 83.376% of variance explained, the regression test led to insignificant values (p = 0.056, β = 0.357). These results were in line with past studies (Agarwal & Karahanna, 1998; Ayo, Oni, Adewoye, & Eweoya, 2016; Carlet, 2015; Dos Santos & Okazaki, 2013; Taylor & Todd, 1995c), where compatibility was found to be insignificant towards attitude. Similarly, Cheng, Tsai, Hung, and Chen (2015), Cheng, Hung, Tsai, and Chen (2016), and Hwa and Perumal (2018) found that compatibility was not significant towards attitude in their studies. Therefore, past results supported the finding that compatibility had no significant relationship towards attitude.

The taxpayers may not perceive that system compatibility affects their attitude towards voluntary compliance with tax laws. Therefore, taxpayers did not agree that compatibility impact their work style. To illustrate this point, taxpayers are not tax preparers or tax agents who perform their tasks easily according to their job function

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as tax preparers. Taxpayers use e-filing system mainly for convenience to perform mandatory duties. Moreover, the e-filing system is easily accessible in any computer operating systems. Overall, this result did not support this research objective.

5.3.3 Discussion of Third Objective

The third objective of the study was related to the dimensions of subjective norm. The dimensions included peer influence and mass media referent, which were examined in this study. Hence, the outcome of these dimensions is discussed in the following sections.

5.3.3.1 Dimensions of peer influence on subjective norm.

As highlighted in this study, the important people surrounding the individual taxpayer may influence his or her decision to comply voluntarily with tax laws. This notion indicates the endorsement from the individual's social circle towards voluntary tax compliance intention. According to Ajzen (1991), the important referents determine the behaviour of individuals. Therefore, this study highlighted that peer influence placed pressure on taxpayers to comply voluntarily.

The influence from peers, family members, or colleagues was found to have a positive impact towards subjective norm. The finding of this study was in line with the DTPB model, which proposed peer influence as its main dimension of subjective norm. This suggestion was in line with the results by Huang and Chuang (2007), Dos Santos and Okazaki (2013), Ahmed and Ward (2016), and Susanto, Diani, and Hafidz (2017). According to Azam and Qiang (2014), peer influence was the most significant

dimension of subjective norm. Therefore, it was proven that the word of mouth surrounding the individual's social circle, which could be positive or negative, had its significant role in the individual's decision to comply with tax laws voluntarily. The words by the peers, family, friends, or colleagues who may have tax compliance experience play an important role in convincing taxpayers towards voluntary tax compliance. Families or friends who may be licensed tax agents or working in tax accounting firms could play their role in advising the taxpayers accordingly. Therefore, the fifth research objective was stated to have a significant relationship between peer influence and individual taxpayer's attitude towards voluntary tax compliance intention via e-filing system.

5.3.3.2 Dimensions of mass media referent on subjective norm.

As an important tax compliance factor, tax information presents the taxpayer's knowledge of their right, which could also be utilised as an inducement for higher tax compliance. In the ever-increasing informative society internet connectivity, mass media offers fast, efficient, and effective solutions for most taxpayers in a complex diverse society. Multi-layered answers addressed in mass media, particularly the electronic medium, also offer solutions to many marginalised taxpayers. It could be seen that mass media serve as a platform in promoting voluntary tax compliance and reminders to many taxpayers of their responsibility towards nation's development.

In this study, the usage of mass media as referent was found to have significant positive impact on subjective norm (p = 0.000, β = 0.461), as shown in Table 5.1. Therefore, mass media had an important role in disseminating information and serving reminders

of the due dates for taxpayers. The mass media referent answered the six objectives that showed a positive significant relationship between mass media referent and individual taxpayer's subjective norm.

The results of this study were in line with the findings by Alharbi, Kang, and Hawryszkiewycz (2015), Md Husin and Ab Rahman (2016), and Sadaf and Gezer (2020). In OECD (2010b), the use of mass media was highlighted as a medium of communications with taxpayers to strengthen the tax administrator's effectiveness or to strengthen the social norms with honest taxpayers. In addition, the use of mass media was suggested for tax awareness campaigns (Al-Naimat, 2013), extensive publicity to stimulate taxpayer's interest and curiosity (Lai et al., 2017), and promotions, advertisements, and events (Awasthi & Engelschalk, 2018). However, to increase tax compliance, the use of mass media as a referent should be carefully designed to be morally persuasive with neutral information campaigns in transmitting tangible information on tax filing processes. This information includes tax eligibilities or tax due dates instead of re-framing commonplace information, such as penalties as compliance benefits (Koumpias & Martinez-Vazquez, 2019).

5.3.4 Discussion of Fourth Objective

The fourth objective of the study was related to the dimensions of perceived behavioural control. The dimensions involved facilitating conditions, self-efficacy, and ability to pay, which were examined in this study. Therefore, the outcome of these dimensions was discussed in following sections.

5.3.4.1 Dimensions of self-efficacy on perceived behavioural control.

Self-efficacy denotes the belief accomplished by an individual based on their abilities under certain situations (self-esteem). In this study, it was found that self-efficacy had no significant influence on individual taxpayer's attitude towards voluntary tax compliance intention via e-filing system. Although many past studies presented significant result, the non-significance of self-efficacy in this study demonstrated that the individual's ability to perform tax compliance tasks voluntarily comprised other factors. In addition, Cheng, Tsai, Hung, and Chen (2015) and Cheng, Hung, Tsai, and Chen (2016) found that self-efficacy was not significant in perceived behavioural control. Given that the responsibility of submitting tax form voluntarily was based on the yearly basis, the frequency of usage could have impact on their ability to fulfil their responsibility to comply voluntarily. Furthermore, the current and updated information might also be required to complete the compliance tasks. Hung et al. (2006) suggested governmental agencies to market and focus on low self-efficacy online adopters by training and educating users to increase the online adopters' elf-efficacy. Thus, IRBM could focus on newly registered taxpayers in educating them regarding the processes and requirements to increase taxpayers' self-efficacy to comply with income tax laws via e-filing system. Hence, the H1c4a objective of self-efficacy should be examined further.

5.3.4.2 Dimensions of facilitating conditions on perceived behavioural control

Given the definition of facilitating conditions as the individual's perception of available resources and support in performing a behaviour (Baptista & Oliveira, 2015; Venkatesh, Morris et al., 2003; Venkatesh, Thong et al., 2012; Venkatesh & Zhang,

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2010), the available facilities should follow the taxpayers' preference to encourage the use of the facilities and indirectly increase compliance. In this study, the facilitating condition dimension was found to have significant relationship on perceived behavioural control with a positive β value of 0.577 and significant p value of 0.000, which were obtained from the tests conducted (refer Table 5.1).

In this study, facilitating conditions were found to have a significant influence in determining perceived behavioural control of individual taxpayer's voluntary tax compliance behaviour. Keramati et al.'s (2012) study on taxpayers E-Tax Payment System recorded that facilitating conditions had a significant relationship with perceived behavioural control. Similar results were obtained in other studies by Yu (2014), Cheng et al. (2015), Cheng et al. (2016), Md Husin and Ab Rahman (2016), and Zaman, Zahid, Habibullah, and Din, (2021). The favourable facilities provided could increase the usage preference. Therefore, facilitating conditions should be constantly upgraded and updated, which was in-line with the changes in technology advancements and taxpayers' usage preferences. In addition, due to the frequency of usage, the support system was also vital in facilitating taxpayers in using the system on yearly basis. Notably, a significant influence of facilitating conditions was present in determining perceived behavioural control on individual taxpayer's behaviour towards voluntary tax compliance intention via e-filing system, which answered the objective H1c4b of this research.

5.3.4.3 Dimensions of ability to pay on perceived behavioural control.

Taxpayers are responsible for declaring and paying tax due on a timely basis. When the e-filing system provides the flexibility to modify inputs and compute tax liability, taxpayers are able to declare their tax liabilities prior to the completion of income tax form filing process. The modification of inputs by taxpayers is unavoidable due to the taxpayers' dislikes towards paying taxes, particularly when the tax liability amount is higher compared to the available funds. Due to insufficient funds, taxpayers may decide to delay payments, or in worse case, not declare their taxable income.

In this study, the ability to pay dimension was found to have a significant relation to the perceived behavioural control with a positive β value of 0.202 and significant p value of 0.046, which were obtained as a result from the tests conducted (Table 5.1). Notably, this finding was in line with the studies by Bidin and Md Idris (2009), Mathieson, Peacock, and Chin (2001), and Luarn and Lin (2005), where financial resources are important for users towards adoptions. Therefore, it was found that the ability to pay had a significant influence on individual taxpayer's perceived behavioural control towards voluntary tax compliance intention via e-filing system. Overall, the result answered objective H1c4c of this research.

5.4 Theoretical Contributions

Theoretical contribution itself must provide novelty of explanations and resolutions for the revealed problems (Whetten, 1989). Any extensions of the existing theory that fundamentally changes any prior operating mechanisms of indicators' relationships denotes a theoretical contribution (Corley & Gioia, 2011). Previously, limited research

works attempted at using the Decomposed Theory of Planned Behaviour (DTPB) model. However, only several researchers including Hung et al. (2006) and Hastuti et al. (2014) expanded the DTPB for their electronic tax filing-related studies. Hung et al. (2006) incorporated perceived risk, trust, and personal innovativeness into their model to study the determinants of users' e-Government service acceptance towards online tax filing and payment system. Meanwhile, Hastuti et al. (2014) incorporated perceived risk, perceived playfulness, internet self-efficacy, perceived controllability, and perceived resources into their study on the adoption of e-filing systems taxation policy in Indonesia.

This study aims to assess the voluntary tax compliance intention via e-filing system by individual taxpayers with employment income to comply with income tax law. Therefore, it contributed to the literature by extending the DTPB model in voluntary tax compliance intention environment in Malaysia, considering that past tax studies that utilised the DTPB model were conducted in Taiwan and Indonesia (Hastuti et al., 2014; Hsu & Chiu, 2004; Hung et al., 2006). Furthermore, this study presented the understanding of voluntary tax compliance behaviour of individual taxpayers, which comprised vast differences in terms of population, demographic, and culture compared to the previous studies conducted in respective countries. The extension of the DTPB model was incorporated with the development of new dimensions to include general tax filing knowledge, mass media referent, and ability to pay dimensions. Overall, the voluntary tax compliance intention was supported with a variance of 49.2%. The DTPB model did not have its limitations on the variables, whereby various variables were added according to the research objectives. This aspect contributed to the flexibility of variables.

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This study incorporated general tax filing knowledge, mass media referent, and ability to pay into the original DTPB model. These dimensions were not included in past studies as parts of multidimensional frameworks. Previous studies may adopt or adapt the three extended variables as unidimensional construct instead of a multidimensional framework. The three theoretical contributions will be discussed in the following sections.

5.4.1 General Tax Filing Knowledge

Although tax knowledge was examined in many studies in the past, most of the studies utilised the variables of tax knowledge as unidimensional construct. In this study, the general tax filing knowledge was introduced as a part of multidimensional construct of attitude, which was rarely examined in past studies. The previous research that utilised DTPB model included the research by Hsu and Chiu (2004), Hung et al. (2006), and Hastuti et al. (2014), which did not include the general tax filing knowledge in their studies. Most of the past research works adopted and adapted measurements to gauge taxpayer's tax knowledge based on the sections of the Income Tax Act 1967, which could be extremely technical and challenging especially on individuals who do not possess the basic tax knowledge.

It was found that general tax filing knowledge had significant relationship with attitude in this study. The study findings proved that taxpayers only understood the basic needs of tax filing. Taxpayers may not understand nor have the knowledge of any options or requirements available for them to file in their income tax forms voluntarily. Furthermore, the general tax filing knowledge was found to have significant direct

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relationships towards voluntary tax compliance intention, as illustrated in Appendix 5. However, this study has contributed in terms of general tax filing knowledge with items from IRBM website FAQs, which measured the basic income tax filing knowledge. In contrast, the study by Mat Udin (2012) tested the technical knowledge based on items as per income tax return form, leading to the importance of publicising the latest tax information and requirements through mass media. Given the important role of mass media in disseminating information, the variable of mass media as a referent is equally important to understand how the taxpayers obtain their knowledge and information from their social circle through mass media.

5.4.2 Mass Media Referent

Compared to peer influence, higher beta value of mass media referent suggests the usage of mass media to disseminate information, reminders, and awareness. This condition leads to changes in the lifestyles and requirements of taxpayers towards obtaining tax information. Past studies could focus on the external factors through the unidimensional construct that influenced taxpayers' behaviour. However, in this study, the dimension of mass media has proven its importance in the technological and cybernetic era. Most of the taxpayers obtained their information and knowledge from news and prevalent media.

Hastuti et al. (2014) highlighted that taxpayers acknowledged the influence of friends and colleagues, news reports, and popular media as the important factor of obtaining the information and knowledge of the tax filing system. Hence, effective and efficient network system and system accessibility are vital in obtaining fast information through

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communication technology (Hastuti et al., 2014). Due to confidentiality and privacy, taxpayers may opt for online searches to obtain and understand the tax requirements and information. This study presented the significance of mass media referent as a contributor towards taxpayers' intention to comply with tax laws voluntarily. Although similar studies were conducted in other parts of the world, the studies were not performed in the form of dimensional construct, particularly in Malaysia where high volume of internet utilisation takes place.

As shown in Appendix 5, the variable of mass media referent showed no direct relationships towards intention. Therefore, the result obtained from the direct relationship test demonstrated that mass media referent should be included as one of the dimensions for subjective norm construct. The result also offered a strong basis for having mass media referent as one of the significant dimensions of subjective norm. This addition to the underpinning theory contributes to new theoretical understanding.

5.4.3 Ability to Pay

Numerous research works examined the financial condition of taxpayers in paying their tax dues. However, most of the research utilised the unidimensional construct to understand the taxpayers' financial ability. In this study, the dimension of ability to pay was identified as a part of perceived behavioural control decomposed construct. By adapting measurements from past study, this research provided a better indicator of the current financial ability of taxpayers towards their behavioural intention in complying with tax laws. This result indicated that taxpayers may require financial adjustments when during the economic difficult times. Tax payment deferments are

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the ideal possible options for taxpayers as an assistance to their tax obligations in performing their annual commitments towards voluntary tax compliance intention.

Based on Appendix 5, the variable ability to pay has no direct relationship towards intention, which has indicated the failure in paying the unidimensional construct test. Thus, the result obtained from the direct relationship test has proven that the ability to pay should be included as one of the dimensions for perceived behavioural control construct. The results presented a strong basis for the ability to pay as one of the significant dimensions of perceived behavioural control. This addition to the underpinning theory presents a new theoretical understanding.

5.5 Practical Contributions

As a tax administrator, IRBM continuously seeks for improvements and sustainability, especially in voluntary tax compliance. Previous studies highlighted the use of enforcements and punishments by most of the tax authorities (Kirchler, 2007). Meanwhile, several prior studies showed minimal support for punishments towards the improvement in compliances that could lead to more complex situations. In this study, it was found that general tax filing knowledge, mass media referent, and ability to pay played a significant role toward voluntary tax compliance intention. Overall, these results presented the indicators for IRBM for better understanding of individual taxpayers and the introduction of better programmes and initiatives to boost voluntary tax compliance.

5.5.1 Disseminating Tax Information

The knowledge of compliance process and requirements are equally important to increase the compliance attitude of taxpayers. Provided that the majority, especially the individual taxpayers, are not well-versed with tax laws, the 'layman' term for interactive and informative dissemination could improve the understanding of taxes and tax laws. Infographics could assist the readers in understanding the processes and requirements involved. In addition, the frequencies and constant dissemination of tax information through valid channels, particularly the mass media, could impart knowledge about tax laws in the eyes of taxpayers.

The increased number of newly registered taxpayers should be a concern for IRBM. These newly registered taxpayers may not be aware of their tax filing responsibilities, obligations, procedures, and requirements. Apart from the normal tax filing educational activities, goodies bag of informative flyers, or interactive internet links should be provided to these newly registered taxpayers to educate them regarding their responsibilities and obligations to comply with tax laws. These informative flyers and internet links could assist in their search for references and guidelines without any discouragements. Hence, this assistance creates a positive attitude to comply voluntarily with tax laws without hesitation.

In this informative technology era, interactive communication systems are vital for information gatherings and updates. Given that most taxpayers are well versed in technology usage, obtaining valid e-filing operating information is equally important. The latest updates should be posted in IRBM official websites timely, including the IRBM official website search engines. The IRBM official website search engines

should be further improvised to facilitate the taxpayer's information searching needs. Furthermore, taxpayers may seek more interactive system to increase the ease of facility usage and usefulness for taxpayers to comply without hesitation. Any lack of assistance or breakdowns in the official websites would discourage taxpayers from continuous use of the facilities for information gatherings. In contrast to previous manual forms, the current electronic income tax form contributes to the ease of computing tax liability through a click on the highlighted icon. Thus, the characteristics of the interactive and informative icons would provide the assistance to the simplified electronic income tax forms.

5.5.2 Usage of Mass Media Referent

In this study, the subjective norm was measured by two dimensions of peer influence and mass media referent. The results indicated the significant impact of peer influence and mass media referent on taxpayer's norm, although the subjective norm was not significant in voluntary tax compliance intention. Taxpayers might tend to obtain information from their peers and utilise mass media as their referent that influenced their decision-making process. However, the information and opinions obtained from their peers or through mass media might not lead to their intention to comply voluntarily. This condition suggested that taxpayers refer to their peers and mass media, although the decision to comply depends on them. Additionally, another possible factor included confidentiality and privacy sensitivity, such as total income earned, tax to be paid, or workplace (in some cases) that the taxpayers may not be willing to share. The taxpayers may perceive declaring and paying taxes are their responsibility, which is not for other individuals to decide.

Prior to the process of tax declaration, the taxpayers may need to seek some information and depend on their peers and mass media. Thus, tax administrators should continuously provide information especially through mass media to disseminate tax information transparently and avoid the misleading and misunderstanding of the tax information. Mass media including radio, TV, social media, blogs, newspapers, magazines, various channels, and websites should be used to create awareness campaigns, upcoming events, current updates, tax law and tax administration information, reminder of due dates, latest changes in policies or operation hours. The information would assist taxpayers in obtaining their affirmative decisions and accurate information timely (Zaman et al., 2021).

5.5.3 Taxpayer's Ability to Pay

The ability to pay was found to impact the taxpayer's voluntary tax compliance intention. This finding indicated that the taxpayers valued the availability of facilities and money upon the decision to comply voluntarily with tax laws. Thus, the taxpayers expected the availability of facilities to provide immediate assistance. In addition, taxpayers indicated that in times of economic hardship, they may need to defer their tax payments. It was perceived that the ability to pay the tax dues could have impact on their voluntary tax compliance intention. Instalment payment options could be made available for taxpayer's consideration. Moreover, further extension of payments should be reviewed accordingly in view of the taxpayer's cashflow availability. Hence, tax administrators should consider the provision of better facilitating services and options for taxpayers, which are in line with the changes of technology and economic conditions.

5.6 Limitation of Study

As indicated in many research works, several limitations were present in some studies. The same case was present for the contribution of this study. To be specific, this study was performed on the employees with only non-business income that has monthly tax deduction (MTD), which is better known as PCB deductions. The responses were obtained from the employees who worked in one of the headquarters of well-known listed companies and the individual taxpayers working in the ministry departments located in Klang Valley. This study could not be used to generalise the opinion of all individual taxpayers in Malaysia regarding their intention to comply voluntarily with tax laws.

As previously mentioned, engaging with taxpayers especially in the compliance studies is highly challenging. Given that this study utilised the electronic survey form forwarded to each representative of offices, extremely inadequate feedbacks of only 15.55% were obtained. This outcome could be due to the changes and transition of political and economic environment during the data collection period. The timing of survey could offer certain indicators of resistance to provide feedback.

This study did not consider the sensitive demographic elements, such as age, gender, race, or religion. Considering that preferences may differ accordingly, the demographic elements could offer several indicators of behaviours. Therefore, the findings could not be used to generalise the demographic elements.

This study did not focus on the actual behaviour of individual taxpayer and only highlighted the intention of the respondents, which might not represent their actual action. The taxpayers could possess their intention although it may not lead to their actual action.

5.7 Recommendation for Future Research

Based on the limitations and findings of this study, several recommendations for future research were presented. Specifically, future studies should include individual taxpayers with business income or corporate sectors. Given that both types of taxpayers may require the preparation of accounts for their income tax return form submissions, the complication of accounts preparation for these types of taxpayers may present different views and behaviours towards voluntary compliance intention, compared to the individuals with employment income. In addition, the locality of taxpayers may also contribute to different views and behavioural intention. Therefore, future research should be performed based on different classifications of taxpayers, localities, and its economic environment.

The complexity and yearly changes on tax laws may lead to several implications. Furthermore, the timing of data collections could also provide some indicators of tax compliance decisions in certain periods of incidents and events. The respondents may be defensive of their actions and be sceptical or hesitant during data collection processes. Cross-sectional research may present some indicators or taxpayers' decision-making patterns. Therefore, it was suggested that future research is conducted over a period of intervals to collect insights from the targeted respondents.

Due to the changes in human lifestyles, including the needs and wants of individual over the period of time, the data collected from different group of individuals may differ. It was suggested that future research is performed to compare tax compliance behaviour of different categorical group of taxpayers based on demographic details. The comparisons between age, gender, race, marital status, education, locality, and income categorical groups may provide insights and comparisons of their tax compliance behaviours for further understandings.

Future research may also extend the model of this study to understand the taxpayers' actions rather than their intentions. The actual tax compliance actions may be actively sought especially by authorities for administrative and legal implementations. Therefore, the research works on actual actions would offer higher chances of actual tax compliance behaviour compared to the research works that were concluded solely on intentions.
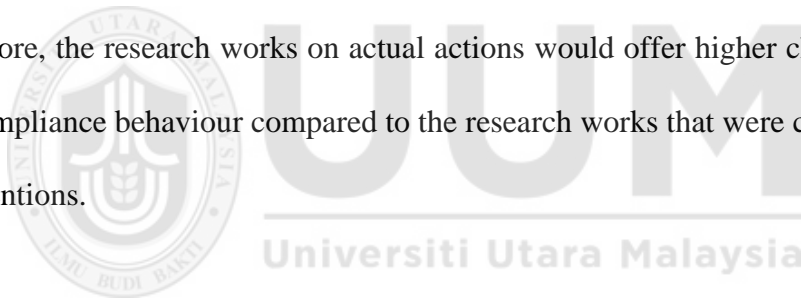
5.8 Conclusion

Overall, it is concluded that general tax filing knowledge and perceived usefulness have significant positive relationship with the taxpayers' attitude. This conclusion upholds the dimension role in the formation of taxpayers' voluntary tax compliance attitude. Furthermore, general tax filing knowledge was found to be a vital factor of the decomposed construct of attitude compared to the unidimensional attitude in other studies. In addition, tax administrators should continuously provide tax information and reminders for taxpayers. The frequency of advertisements or mass media popups could instil the information within the taxpayers' mind. However, the antecedents of

subjective norms may not directly influence taxpayers' intention, although the taxpayers were well-informed of the tax laws and requirements. Although subjective norm was not significant, the voluntary tax compliance intention by taxpayers was strongly indicated by attitude with a significant influence of general tax filing knowledge, perceived usefulness, and perceived behavioural control measured by the notable result of facilitating conditions and ability to pay. Overall, the result indicated the support and predictiveness of DPTB used in this study, while the reliance of this theory in this study is justified.

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APPENDICES

APPENDIX 1: **EMPLOYED PERSONS BY INDUSTRY, MALAYSIA, 2017**

Industri *Industry*		Jumlah *Total*			Bandar *Urban*			Luar bandar *Rural*		
		Jumlah *Total*	Lelaki *Male*	Perempuan *Female*	Jumlah *Total*	Lelaki *Male*	Perempuan *Female*	Jumlah *Total*	Lelaki *Male*	Perempuan *Female*
Jumlah[1] *Total*	('000)	14,450.0	8,896.2	5,553.8	11,204.1	6,730.9	4,473.2	3,245.9	2,165.3	1,080.6
Pertanian, perhutanan dan perikanan *Agriculture, forestry and fishing*		1,631.6	1,259.7	371.9	336.5	273.8	62.7	1,295.1	985.9	309.2
Perlombongan dan pengkuarian *Mining and quarrying*		97.0	79.6	17.4	78.1	62.6	15.6	18.9	17.0	1.9
Pembuatan *Manufacturing*		2,509.1	1,523.1	986.0	2,137.2	1,303.3	833.9	371.9	219.8	152.1
Bekalan elektrik, gas, wap dan pendingin udara *Electricity, gas, steam and air conditioning supply*		62.1	50.9	11.2	50.2	40.2	10.0	11.9	10.7	1.2
Bekalan air; pembentungan, pengurusan sisa dan aktiviti pemulihan *Water supply; sewerage, waste management and remediation activities*		80.9	68.1	12.8	66.4	55.9	10.5	14.5	12.2	2.3
Pembinaan *Construction*		1,256.0	1,134.6	121.4	1,030.2	919.4	110.8	225.8	215.2	10.7
Perdagangan borong dan runcit; pembaikan kenderaan bermotor dan motosikal *Wholesale and retail trade; repair of motor vehicles and motorcycles*		2,481.1	1,458.6	1,022.5	2,105.3	1,246.7	858.6	375.8	211.8	163.9
Pengangkutan dan penyimpanan *Transportation and storage*		657.4	573.1	84.3	560.2	484.4	75.7	97.2	88.7	8.5
Penginapan dan aktiviti perkhidmatan makanan dan minuman *Accommodation and food and beverage service activities*		1,320.2	663.3	656.9	1,094.7	569.5	525.1	225.5	93.8	131.8
Maklumat dan komunikasi *Information and communication*		220.0	147.4	72.7	212.5	142.0	70.5	7.6	5.4	2.2
Aktiviti kewangan dan insurans/takaful *Financial and insurance/takaful activities*		368.5	163.6	204.9	351.9	155.9	196.0	16.7	7.8	8.9
Aktiviti hartanah *Real estate activities*		84.4	49.6	34.7	79.9	47.1	32.8	4.4	2.5	1.9
Aktiviti profesional, saintifik dan teknikal *Professional, scientific and technical activities*		347.6	177.7	169.9	331.9	169.1	162.9	15.7	8.6	7.0
Aktiviti pentadbiran dan khidmat sokongan *Administrative and support service activities*		675.9	455.4	220.5	531.3	352.8	178.5	144.6	102.6	42.0
Pentadbiran awam dan pertahanan; aktiviti keselamatan sosial wajib *Public administration and defence; compulsory social security*		740.7	505.8	234.9	619.1	419.1	200.0	121.6	86.7	34.9
Pendidikan *Education*		878.9	286.9	592.0	716.8	230.4	486.4	162.1	56.5	105.6
Aktiviti kesihatan kemanusiaan dan kerja sosial *Human health and social work activities*		586.9	122.6	464.4	500.4	105.1	395.3	86.6	17.5	69.1
Kesenian, hiburan dan rekreasi *Arts, entertainment and recreation*		84.2	51.9	32.3	72.3	45.1	27.2	11.9	6.8	5.1
Aktiviti perkhidmatan lain *Other service activities*		259.7	116.2	143.5	232.3	101.6	130.7	27.4	14.7	12.8
Aktiviti isi rumah sebagai majikan *Activities of households as employers*		106.2	6.8	99.4	95.6	5.5	90.0	10.7	1.3	9.4

Source: *"Labour Force Survey Report: Malaysia 2017" (Department of Statistics Malaysia, 2018)*

APPENDIX 2: **FEDERAL GOVERNMENT REVENUE 1970-2016 (RM MILLION)**

HASIL KERAJAAN PERSEKUTUAN 1970-2016 (RM JUTA)
FEDERAL GOVERNMENT REVENUE 1970-2016 (RM MILLION)

UPDATED AS AT DECEMBER 2015	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2014	2015 a	2016 b
CUKAI LANGSUNG/DIRECT TAX	42,098	44,351	43,016	48,702	53,544	61,573	69,396	82,138	78,375	79,009	102,242	116,939	126,742	116,760	125,566
Cukai Pendapatan/Income Tax	40,137	42,236	40,502	46,119	50,789	58,775	65,658	78,475	74,917	74,451	96,732	110,662	118,996	108,362	116,558
Syarikat-syarikat/Companies	20,771	24,642	23,990	24,388	26,381	26,477	32,149	37,741	30,199	36,266	46,888	51,288	65,240	68,320	74,381
Perseorangan/Individuals	9,436	9,889	7,984	8,977	8,649	10,196	11,661	14,966	15,590	17,805	20,203	22,977	24,423	28,155	30,266
Petroleum/Petroleum	9,859	7,636	8,466	11,479	14,566	20,674	20,453	24,191	27,231	18,713	27,748	33,934	26,956	9,529	9,331
Pegangan dan lain-lain/Withholding and others	71	69	62	1,275	1,193	1,428	1,395	1,577	1,897	1,667	1,893	2,463	2,377	2,357	2,579
Lain-lain/Others	1,961	2,115	2,514	2,583	2,755	2,798	3,738	3,663	3,458	4,558	5,509	6,276	7,747	8,399	9,009
Duti Harta Pusaka/Estate Duty	-	-	-	-	-	-	-	1	4	1	1	2	2	-	-
Duti Setem/Stamp Duty	1,649	1,733	2,008	2,381	2,460	2,522	3,404	3,492	3,349	4,192	4,929	5,595	6,458	6,188	6,766
RPGT/Real Property Gains Tax	312	382	506	202	295	276	334	110	42	303	509	608	1,210	2,128	2,163
Lain-lain/Others								60	62	62	70	71	77	83	80
CUKAI TAK LANGSUNG/INDIRECT TAX	19,393	22,509	21,875	23,347	27,051	25,058	25,772	30,760	28,129	30,507	32,643	34,706	37,462	53,258	57,987
Duti Eksport/Export Duties	867	804	1,156	1,599	2,086	2,361	2,322	2,779	1,152	1,810	2,081	1,968	1,893	1,053	1,012
Duti Import dan Cukai Tokok / Import Duties and Surtax	3,193	3,669	3,919	3,874	3,385	2,679	2,424	2,635	2,114	1,966	2,026	2,282	2,670	2,727	2,791
Duti Eksais/Excise Duties	4,129	4,745	5,031	6,828	9,321	8,576	8,991	10,683	10,068	11,770	11,517	12,187	12,925	12,168	12,408
Cukai Jualan/Sales Tax	7,356	9,242	7,965	6,816	7,709	6,532	6,642	8,374	8,603	8,171	8,577	9,496	10,939	4,784	-
Cukai Perkhidmatan/Service Tax	1,926	2,214	2,038	2,350	2,582	2,685	3,013	3,345	3,344	3,926	4,982	5,583	6,278	2,851	-
Cukai Barang dan Perkhidmatan/Goods and Services Tax														27,000	39,000
Lain-lain/Others	1,922	1,835	1,766	1,880	1,968	2,225	2,380	2,944	2,847	2,863	3,460	3,190	2,758	2,675	2,776
Jumlah Hasil Cukai/Total Tax Revenue	61,491	66,860	64,891	72,049	80,595	86,631	95,168	112,898	106,504	109,515	134,885	151,643	164,205	170,018	183,553
Hasil Bukan Cukai/Non Tax Revenue	17,304	15,759	23,130	26,511	25,053	36,005	43,950	45,911	50,789	48,867	49,423	54,909	53,899	50,095	39,648
Dividen PETRONAS/PETRONAS Dividen	5,910	5,390	5,100	9,100	11,000	18,000	24,000	30,000	30,000	30,000	30,000	26,260	29,000	26,000	16,000
Royalti Petroleum & Gas/Petroleum Royalty & Gas	2,000	1,600	2,142	2,497	3,293	4,240	4,152	5,908	4,805	4,855	5,148	6,423	6,532	4,415	3,169
Lesen Kenderaan Bermotor dan Cukai Jalan/Motor Vehicle	2,064	2,523	2,588	2,243	2,619	2,237	2,170	2,313	2,367	2,550	2,755	2,893	2,532	2,697	2,957
Dividen Bank Negara/Bank Negara Dividen	1,000	500	500	1,006	1,200	1,200	1,200	1,500	1,500	2,000	2,000	2,000	1,500	3,000	2,000
Lain-lain/Others	6,330	5,746	12,800	11,665	6,941	10,328	12,428	6,190	12,117	9,462	9,521	17,332	14,335	13,983	15,522
Penerimaan Bukan Hasil/Non-Revenue	772	896	4,586	836	657	911	767	985	1,346	1,270	1,111	1,360	2,522	2,342	2,455
Terimaan Bukan Hasil/Non-Revenue Receipts	589	686	4,356	573	396	635	461	693	1,068	793	544	877	1,667	1,473	1,504
Hasil Wilayah Persekutuan	183	210	230	263	261	276	306	292	278	477	567	483	855	869	951
Revenue from Federal Territories															
JUMLAH HASIL/TOTAL REVENUE	79,567	83,515	92,607	99,396	106,305	123,547	139,885	159,794	158,639	159,653	185,419	207,913	220,626	222,455	225,656

a. Anggaran disemak/Revised estimate.
b. Anggaran bajet/Budget estimate.

Diperolehi daripada website MOF pada 08/03/2016
1 http://www.treasury.gov.my/index.php?option=com_content&view=article&id=2702&itemid=2481&lang=en
2 http://www.treasury.gov.my/pdf/percukaian/penerbitan/buku_anggaran_hasil_kerajaan_persekutuan_2016.pdf

350

APPENDIX 3: **NUMBER OF REGISTERED TAXPAYERS AS AT 31ST DECEMBER 2017**

INLAND REVENUE BOARD OF MALAYSIA
NUMBERS OF REGISTERED ACTIVE FILES UNTIL 31 DECEMBER 2017

NO.	BRANCH	SG File Registered Active File
1	Johor Bharu	348,786
2	Melaka	177,993
3	Seremban	165,510
4	Taiping	79,966
5	Ipoh	146,011
6	Teluk Intan	52,200
7	Kota Bharu	103,514
8	Alor Setar	99,432
9	Pulau Pinang	276,419
10	Kuantan	83,815
11	Tidak Bermastautin	47,355
12	Duta	485,405
13	Kluang	107,878
14	Pembayar Cukai Besar	3,330
15	Kuala Terengganu	100,757
16	Shah Alam	319,871
17	Raub	34,701
18	Kangar	31,912
19	Kuala Lumpur Bandar	455,759
20	Bukit Mertajam	218,742
21	Klang	226,052
22	Bangi	207,008
23	Muar	78,512
24	Cheras	262,937
25	Wangsa Maju	290,749
26	Sungai Petani	79,695
27	Petaling Jaya	366,272
28	Temerloh	36,642
29	Kota Kinabalu	165,717
30	Sandakan	32,738
31	Tawau	42,745
32	Keningau	15,651
33	Kuching	174,326
34	Sibu	62,717
35	Miri	86,339
36	Bintulu	49,838
37	Labuan	18,971
	TOTAL	**5,536,265**

APPENDIX 4: **NORMALITY PROBABILITY PLOT**

Histogram

Dependent Variable: INT

Mean = 5.82E-15
Std. Dev. = 0.980
N = 303
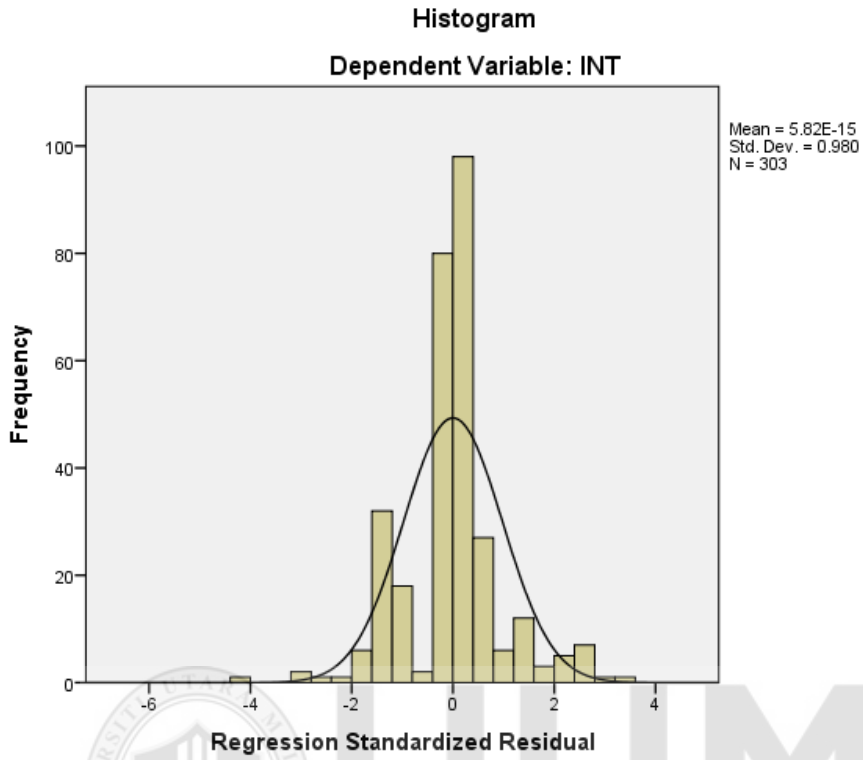
(i) Histogram of residuals

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: INT
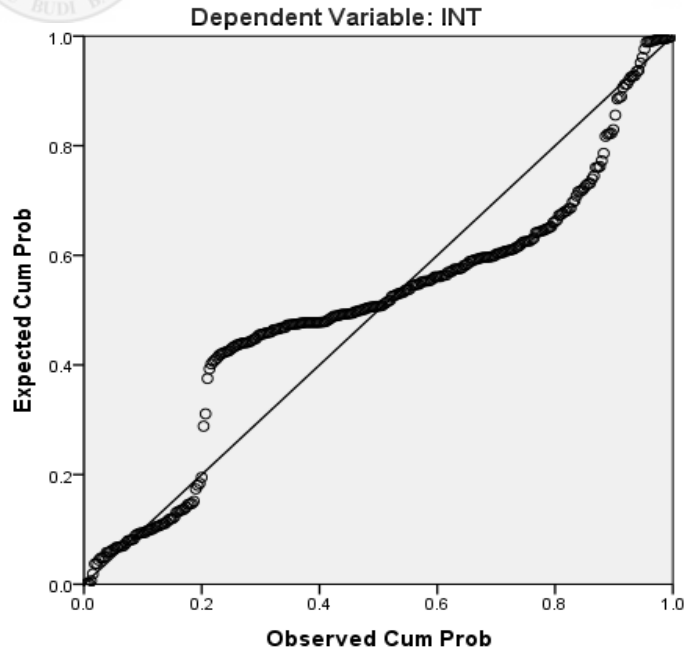
(ii) Normal probability plot

Scatterplot

Dependent Variable: INT
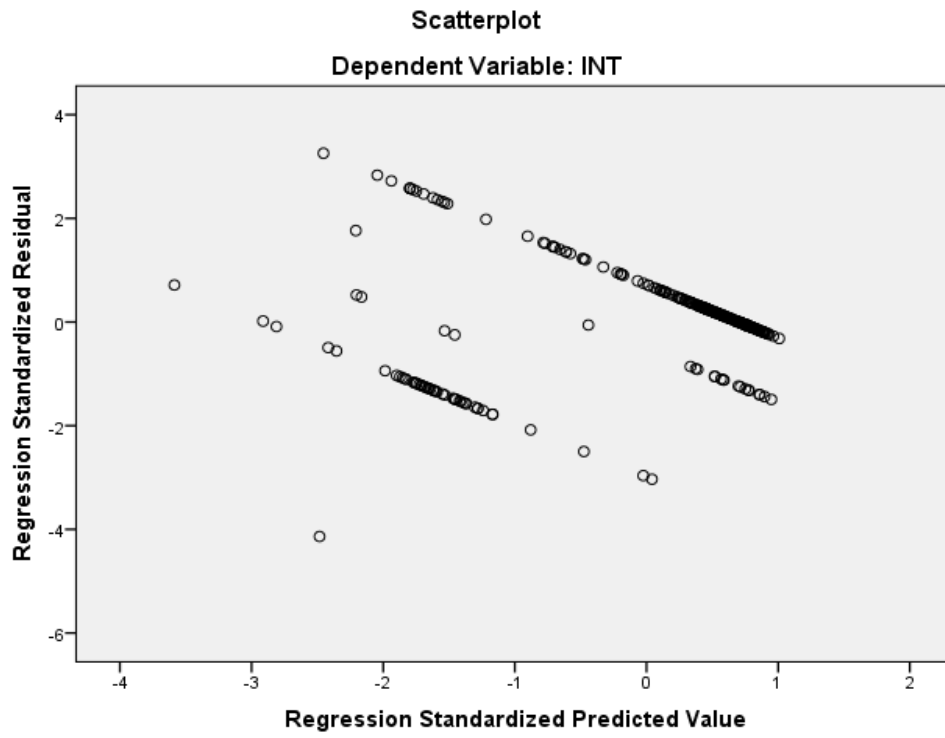
(iii) Scatter plot

APPENDIX 5: **ANALYSES OF RESULTS – ASSUMING DIMENSIONS HAVE DIRECT RELATIONSHIP TOWARDS INTENTION**

i)   Direct Path Coefficients

Relationships	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
ATP -> INT	0.001	0.014	0.125	0.012	**0.991**
ATT -> INT	0.137	0.145	0.100	1.366	**0.173**
COMP -> INT	0.068	0.056	0.056	1.218	**0.224**
FC -> INT	0.266	0.264	0.121	2.205	**0.028**
GTK -> INT	0.247	0.245	0.095	2.616	**0.009**
MMR -> INT	0.082	0.077	0.100	0.825	**0.410**
PBC -> INT	0.106	0.096	0.108	0.982	**0.327**
PEOU -> INT	-0.016	-0.006	0.049	0.320	**0.749**
PI -> INT	0.106	0.100	0.092	1.149	**0.251**
PU -> INT	-0.001	0.005	0.072	0.017	**0.987**
SE -> INT	-0.092	-0.087	0.083	1.113	**0.266**
SN -> INT	-0.029	-0.030	0.081	0.365	**0.716**

ii)   R Square (R²) and Adjusted R Square (R²)

	R Square	R Square Adjusted
INT	0.576	0.558

Analyses of results – Assuming dimensions have direct relationship towards intention (Continued)
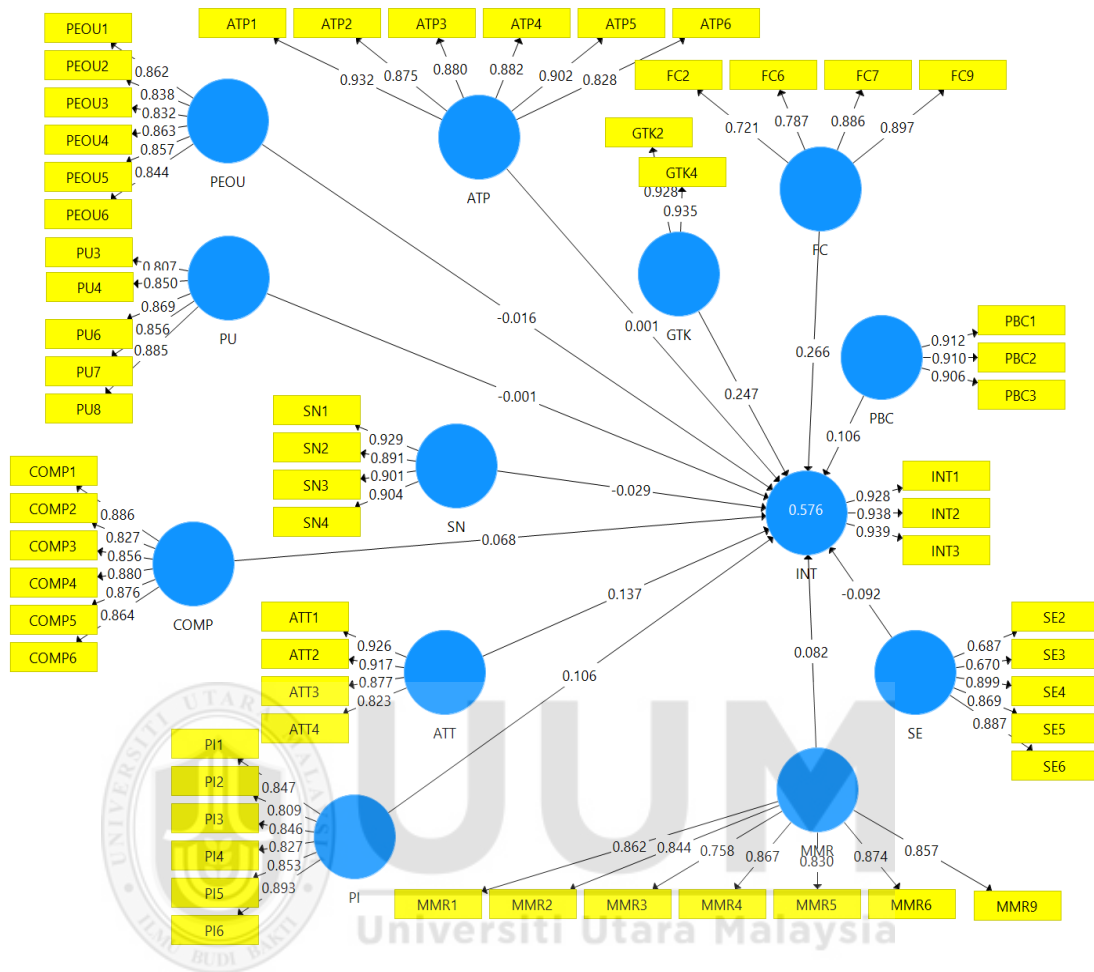
APPENDIX 6: **COMPARISONS OF THEORIES - R² AND ADJUSTED R²**

(i) R Square (R²)

Construct	TAM	TRA	TPB	DTPB
ATT	0.486	0.382	0.325	0.543
PBC			0.650	0.685
SN		0.633	0.633	0.626
INT	0.436	0.467	0.493	0.492

(ii) Adjusted R Square (R²)

Construct	TAM	TRA	TPB	DTPB
ATT	0.479	0.380	0.323	0.537
PBC			0.649	0.682
SN		0.631	0.631	0.624
INT	0.434	0.463	0.488	0.487
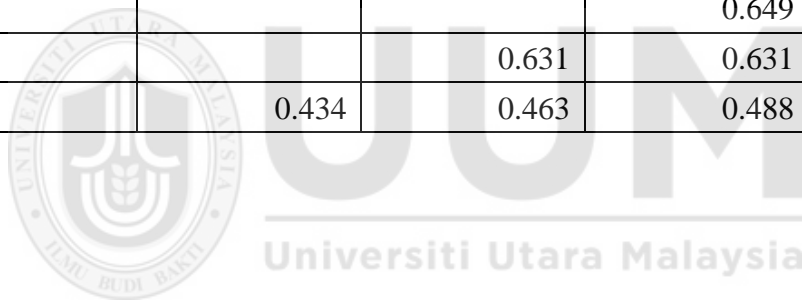
APPENDIX 7: **COMPARISONS OF THEORIES – PATH COEFFICIENTS**

TRA

Construct	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
ATT -> INT	0.479	0.484	0.074	6.457	**0.000**
PEOU + PU + GTK +COMP -> ATT	0.618	0.621	0.040	15.488	**0.000**
PI + MMR -> SN	0.795	0.797	0.027	29.920	**0.000**
SN -> INT	0.252	0.248	0.073	3.437	**0.001**

TPB

Construct	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
ABT + SE + FC -> PBC	0.806	0.808	0.032	25.465	**0.000**
ATT -> INT	0.382	0.393	0.093	4.129	**0.000**
GTK + PEOU + PU + COMP -> ATT	0.528	0.533	0.047	11.204	**0.000**
PBC -> INT	0.260	0.255	0.100	2.593	**0.010**
PI + MMR -> SN	0.795	0.796	0.027	29.605	**0.000**
SN -> INT	0.130	0.125	0.086	1.507	**0.133**

DTPB

Construct	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
ABT -> PBC	0.202	0.197	0.101	2.003	**0.046**
ATT -> INT	0.380	0.389	0.086	4.411	**0.000**
COMP -> ATT	0.056	0.054	0.060	0.921	**0.357**
FC -> PBC	0.577	0.585	0.092	6.264	**0.000**
GTK -> ATT	0.435	0.430	0.074	5.879	**0.000**
MMR -> SN	0.461	0.462	0.074	6.252	**0.000**
PBC -> INT	0.260	0.255	0.104	2.504	**0.013**
PEOU -> ATT	-0.023	-0.025	0.056	0.414	**0.679**
PI -> SN	0.378	0.380	0.073	5.169	**0.000**
PU -> ATT	0.344	0.354	0.079	4.383	**0.000**
SE -> PBC	0.097	0.096	0.062	1.550	**0.122**
SN -> INT	0.131	0.129	0.085	1.545	**0.123**

Comparisons of theories – Path coefficients (Continued)

TAM

Construct	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
ATT -> INT	0.660	0.664	0.041	16.022	**0.000**
COMP -> ATT	0.048	0.046	0.063	0.760	**0.447**
GTK -> ATT	0.287	0.292	0.070	4.130	**0.000**
PEOU -> ATT	-0.065	-0.067	0.055	1.173	**0.241**
PU -> ATT	0.473	0.475	0.069	6.825	**0.000**

APPENDIX 8: **COMPARISONS OF THEORIES – FIT INDICES AND**

EXPLANATORY POWER

	TRA	TPB	DTPB
R^2_{ATT}	0.382	0.325	0.543
R^2_{INT}	0.467	0.493	0.492
R^2_{PBC}		0.650	0.685
R^2_{SN}	0.633	0.633	0.626
Average AVE	0.554	0.827347	0.827376
Total average	1.047365	1.352483	1.414212
GoF	0.523682	0.676242	0.707106

APPENDIX 9: **LETTER TO REQUEST DATA FOR RESEARCH**

OTHMAN YEOP ABDULLAH GRADUATE SCHOOL OF BUSINESS
Universiti Utara Malaysia
06010 UUM SINTOK
KEDAH DARUL AMAN
MALAYSIA

Tel.: 604-928 7101/7113/7130
Faks (Fax): 604-928 7160
Laman Web (Web): www.oyagsb.uum.edu.my

"MUAFAKAT KEDAH"

UUM/OYAGSB/R-4/4/1
23 October 2017

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF RECOMMENDATION FOR DATA COLLECTION AND RESEARCH WORK

This is to certify that **Ang Leng Soon (Matric No: 95359)** is a student of Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia persuing his Doctor of Philosophy (PhD). He is conducting a research entitled *"Factors Influencing Malaysian Individual Taxpayers Intention to use E-filing Towards Tax Compliance"* under the supervision of Assoc. Prof. Dr. Chek B Derashid.

In this regard, we hope that you could kindly provide assistance and cooperation for him to successfully complete the research. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you.

"BERKHIDMAT UNTUK NEGARA"
"ILMU, BUDI, BAKTI"

Yours faithfully

FADHLINA BINTI MD PUDZI
Assistant Registrar
for Dean
Othman Yeop Abdullah Graduate School of Business

c.c   -   Supervisor
       -    Student's File (95359)

Universiti Pengurusan Terkemuka
The Eminent Management University

Letter to Request Data for Research (Continue)

Ang Leng Soon
Unit 126, Lafite Apartment
Jalan SS17/1G
47500 Subang Jaya

17 Disember 2017

Mohammed Noor Bin Ahmad
Pengarah
Jabatan Operasi Cukai
Lembaga Hasil Dalam Negeri Malaysia
Aras 12, Menara Hasil
Persiaran Rimba Permai
Cyberjaya 8
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Tuan,

PERMOHONAN BAGI MENDAPATKAN DATA STATISTIK LDHNM BAGI TUJUAN PENYELIDIKAN PENGAJIAN PHD PERAKAUNAN DI FAKULTI TUNKU PUTERI INTAN SAFINAZ SCHOOL OF ACCOUNTING (TISSA) UNIVERSITI UTARA MALAYSIA (UUM)

Dengan segala hormatnya, saya merujuk kepada perkara diatas.

2. Sebagai makluman tuan, saya sedang menjalankan penyelidikan di peringkat Falsafah Kedoktoran (PhD) dalam bidang Perakaunan di Universiti Utara Malaysia (UUM) melalui pengajian secara separuh masa dengan tajuk 'FACTORS INFLUENCING MALAYSIAN INDIVIDUAL TAXPAYERS' INTENTION TO USE E-FILING SYTEM TOWARDS TAX COMPLIANCE'.

3. Tujuan permohonan saya ini adalah semata-mata untuk tujuan penyelidikan akademik sahaja dan segala butiran yang diterima adalah dikendalikan dengan tahap kerahsiaan yang tertinggi. Oleh itu, data yang diperolehi akan disimpan di lokasi yang selamat dan terkawal seperti dalam peti almari berkunci. Data tersebut juga akan disimpan selama 3 tahun bagi tujuan penyelidikan akademik sahaja dan akan dilupuskan selepas itu.

4. Oleh yang demikian, disertakan format data yang dikehendaki seperti dilampirkan bagi tujuan kemudahan koordinasi dan penyediaan data tersebut di peringkat Jabatan Operasi Cukai.

5. Walaupun ini adalah merupakan pengajian akademik, saya faham akan tugas saya sebagai pegawai LHDNM yang masih tertakluk kepada kerahsiaan maklumat dibawah Seksyen 138 ACP 1967. Saya akan bertanggungjawab ke atas segala kerahsiaan maklumat-maklumat data tersebut dan akan memastikan data-data yang diperoleh disimpan dengan selamat dan terkawal.

...2

Sehubungan itu, permohonan ini tujukan untuk mendapatkan kebenaran tuan dalam memperolehi data-data statistik untuk tujuan tersebut. Segala pertimbangan dan kelulusan tuan amat diharapkan dan didahului dengan ucapan berbillion terima kasih dalam menjayakan hasrat saya untuk membantu dalam meningkatkan keberkesanan perkhidmatan LHDNM yang menjerus kepada tahap peningkatan pematuhan dikalangan pembayar cukai.

Pihak tuan boleh menghubungi saya melalui email anglengsoon@gmail.com atau nombor telefon 012-4621850 jika mempunyai sebarang pertanyaan.

Sekian terima kasih.

Yang Benar,

ANG LENG SOON
TUNKU PUTERI INTAN SAFINAZ SCHOOL OF ACCOUNTING (TISSA-UUM)
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APPENDIX 10: *RESPONDENTS OBTAINED FROM INDIVIDUALS WORKING*

IN FOLLOWING OFFICES

No.	Ministries/Departments	Private Sector
1	Ministry of Education	Permodalan Nasional Berhad
2	Ministry of Domestic Trade, Co-Operatives and Consumerism	Telekom Malaysia Berhad
3	Ministry of Human Resources	Malayan Banking Berhad
4	Ministry of Primary Industries	Petroliam Nasional Berhad (Petronas)
5	Ministry of Finance	Perodua Manufacturing Sdn Bhd
6	Ministry of Health	Genting Berhad
7	Ministry of International Trade and Industry	FFM Berhad
8	Ministry of Energy, Science, Technology, Environment and Climate Change (KeTTHA)	Malaysia Airlines Berhad
9	Ministry of Communications and Multimedia	S P Setia Berhad
10	Ministry of Housing and Local Government	Sime Darby Plantation Berhad

THE ASSESSMENT OF VOLUNTARY TAX COMPLIANCE INTENTION VIA

E-FILING SYSTEM AMONG MALAYSIAN INDIVIDUAL TAXPAYERS

Dear respondents,

I am conducting a research on the understanding of voluntary tax compliance intention amongst individual taxpayers with employment income in Malaysia. This study is developed under the guidance of academicians of Tunku Puteri Intan Safinaz School of Accountancy (TISSA), Universiti Utara Malaysia. We cordially invite your good self to be a part of our study as respondents. We are specifically gathering information regarding the factors that would influence your intention to file income tax return forms voluntarily in accordance with tax laws.

All responses are voluntary and will be kept with highest confidentiality. There are no foreseeable risks from participating in this study. There is no right or wrong answer in answering the questions. By submitting your respond, you have indicated that you are voluntarily agreeing to participate in this study. On behalf of the research team, we really appreciate your time taken, effort and kindness towards completing this survey form. Your contribution is highly appreciated.

This questionnaire will take about 10-15 minutes to complete. You are encouraged to ask questions at any time during this study. We greatly appreciate your participation in this study. Please respond to every question and record your thoughts immediately on each statement.

For further information about this study, kindly contact Ang Leng Soon at anglengsoon@gmail.com or Associate Professor Dr. Chek Derashid at chek@uum.edu.my.

Thank your very much for your kindness cooperation.

Associate Professor Dr. Chek Derashid
Dean,
Tunku Puteri Intan Safinaz School of Accountancy (TISSA),
Unversiti Utara Malaysia

Instruction:

It is important that you answer all the questions. Your approximate answer is far more useful than an incomplete response. Please **place a tick (√) mark on the number in each box below** that you think is accurate in relation to each question.

SECTION ONE: ANTECEDENTS OF ATTITUDE TOWARDS VOLUNTARY TAX COMPLIANCE INTENTION

Please indicate your response to the following statements to the scale below:

Strongly disagree ← → Strongly agree
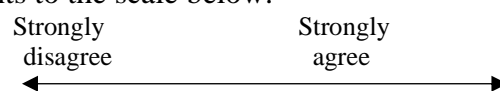
General tax filing knowledge

1	It is a criminal offence for not submitting income tax form.	1	2	3	4	5	6	7
2	E-filing system is an electronic mode of filing income tax form through the internet.	1	2	3	4	5	6	7
3	I must provide the latest information on my particulars in the e-filing system.	1	2	3	4	5	6	7
4	I know that I already submitted my electronic income tax form when I receive an electronic confirmation of receipt from IRBM on the computer screen.	1	2	3	4	5	6	7
5	IRBM offers an option to amend my income tax form if I find mistakes in my earlier e-filing submission.	1	2	3	4	5	6	7
6	My employers have already deducted Monthly Tax Deduction (MTD) from my monthly salary, so I do not need to submit my income tax form every year.	1	2	3	4	5	6	7
7	I do not need to submit income tax form if I elect MTD as the final tax.	1	2	3	4	5	6	7
8	As I have already paid my taxes, I do not need to submit my income tax form voluntarily.	1	2	3	4	5	6	7

Perceived ease of use

1	Learning to submit income tax form voluntarily by operating e-filing system would be easy for me.	1	2	3	4	5	6	7
2	I would find it easy to submit income tax form voluntarily by getting e-filing system to do what I want it to do.	1	2	3	4	5	6	7
3	My interaction with e-filing system would be clear and understandable for me to file income tax form voluntarily.	1	2	3	4	5	6	7
4	I would find e-filing system to be flexible to interact with during the process of voluntary income tax form submission.	1	2	3	4	5	6	7
5	It would be easy for me to become skilful to submit income tax form voluntarily by using e-filing system.	1	2	3	4	5	6	7
6	I would find the submission of income tax form voluntarily through e-filing system easy to use.	1	2	3	4	5	6	7

Perceived Usefulness

1	Voluntary compliance with tax law using e-filing system will be of no benefit to me.	1	2	3	4	5	6	7
2	Using e-filing system to comply with tax laws voluntarily will improve my performance in submitting income tax form.	1	2	3	4	5	6	7
3	The advantages of filing income tax form voluntarily using e-filing system will outweigh the disadvantages.	1	2	3	4	5	6	7
4	Overall, submission of income tax form voluntarily using the e-filing system will be advantageous.	1	2	3	4	5	6	7
5	Voluntary submission of income tax form using e-filing system that do not benefit to me is bad.	1	2	3	4	5	6	7
6	Voluntary submission of income tax form using e-filing system that will improve my tax compliance is good.	1	2	3	4	5	6	7
7	The voluntary submission of income tax form using e-filing system service with more advantages than disadvantages is good.	1	2	3	4	5	6	7
8	The voluntary submission of income tax form using e-filing system service that is advantageous is good.	1	2	3	4	5	6	7

Compatibility

1	Using the e-filing system will fit me well with the way I work in submitting my income tax form voluntarily.	1	2	3	4	5	6	7
2	Using the e-filing system will fit into my workstyle in submitting my income tax form voluntarily.	1	2	3	4	5	6	7
3	The setup of the e-filing system will be compatible with the way I work in submitting my income tax form voluntarily.	1	2	3	4	5	6	7
4	E-filing system service that fits well the way I work is good towards voluntary tax compliance.	1	2	3	4	5	6	7
5	E-filing system service that fits into my workstyle is good towards voluntary tax compliance.	1	2	3	4	5	6	7
6	E-filing system service that is compatible with the way I work is good towards voluntary tax compliance.	1	2	3	4	5	6	7

Attitude

1	With my general tax filing knowledge, voluntary tax compliance using e-filing system is a good idea.	1	2	3	4	5	6	7
2	With my general tax filing knowledge, voluntary tax compliance using e-filing system is wise idea.	1	2	3	4	5	6	7
3	With my general tax filing knowledge, I like the idea of voluntary tax compliance via e-filing system.	1	2	3	4	5	6	7
4	With my general tax filing knowledge, voluntary tax compliance via e-filing system would be pleasant	1	2	3	4	5	6	7

SECTION TWO: ANTECEDENTS OF SUBJECTIVE NORM TOWARDS VOLUNTARY TAX COMPLIANCE INTENTION

| | Strongly Disagree ← → Strongly agree |

Peer Influence

		Strongly Disagree						Strongly agree
1	My friends would think that I should voluntarily comply with tax laws by submitting my income tax form via e-filing system.	1	2	3	4	5	6	7
2	My colleagues would think that I should voluntarily comply with tax laws by submitting my income tax form via e-filing system.	1	2	3	4	5	6	7
3	My family would think that I should voluntarily comply with tax laws by submitting income tax form via e-filing.	1	2	3	4	5	6	7
4	Generally speaking, I want to do what my family think I should do towards voluntary tax compliance in submitting income tax form via e-filing system.	1	2	3	4	5	6	7
5	Generally speaking, I want to do what my friends think I should do towards voluntary tax compliance submitting income tax form via e-filing system.	1	2	3	4	5	6	7
6	Generally speaking, I want to do what my colleagues think I should do towards voluntary tax compliance in submitting income tax form via e-filing system.	1	2	3	4	5	6	7

Mass Media Referent

1	I read/saw news/reports where filing income tax forms voluntarily via e-filing system is a good way to voluntarily declare my income tax.	1	2	3	4	5	6	7
2	The media and advertising consistently recommend the usage of e-filing system to comply by filing income tax forms voluntarily.	1	2	3	4	5	6	7
3	In my profession, it is advisable to comply by voluntarily filing the income tax form.	1	2	3	4	5	6	7
4	The media are full of reports, articles and news suggesting that using e-filing system to comply voluntarily is a good idea.	1	2	3	4	5	6	7
5	Mass media reminds me of the last income tax filing date in complying voluntarily with tax laws.	1	2	3	4	5	6	7
6	I am able to search for information and answers regarding income tax filing issues via internet or social media as referent.	1	2	3	4	5	6	7
7	I learn how to submit my income tax form towards voluntary tax compliance by using my idols guidance in mass media	1	2	3	4	5	6	7
8	I would like my voluntary tax compliance behaviour to look like my idols.	1	2	3	4	5	6	7
9	Watching TV, listening to radio; or reading magazines or social media posts makes me want to comply voluntarily with tax laws via e-filing system.	1	2	3	4	5	6	7

Subjective Norm

1	People who influence my behaviour would think that I should comply voluntarily with tax laws in submitting income tax form via e-filing system.	1	2	3	4	5	6	7
2	People who are important to me would think I should voluntarily comply with tax laws in submitting income tax form via e-filing system.	1	2	3	4	5	6	7
3	People who influence my behaviour would think that I should voluntarily comply with tax laws in submitting my income tax form via e-filing system.	1	2	3	4	5	6	7
4	People who are important to me would think I should submit my income tax form voluntarily via e-filing system.	1	2	3	4	5	6	7

SECTION THREE: ANTECEDENTS OF PERCEIVED BEHAVIOURAL CONTROL TOWARDS VOLUNTARY TAX COMPLIANCE INTENTION

Strongly disagree ←   → Strongly agree

Self-Efficacy

1	I would feel comfortable to submit income tax form voluntarily using e-filing system.	1	2	3	4	5	6	7
2	If I want to, I could easily operate e-filing system voluntarily on my own to submit my income tax form.	1	2	3	4	5	6	7
3	I would be able to submit income tax form voluntarily using e-filing system even if there is no one around to show me how to use it.	1	2	3	4	5	6	7
4	For me, feeling comfortable submitting income tax form by using e-filing system on my own is important.	1	2	3	4	5	6	7
5	For me, being able to easily operate the e-filing system to file income tax form voluntarily on my own is important.	1	2	3	4	5	6	7
6	For me, being able to submit income tax form by using e-filing system even if there is no one around to show me how to use it is important.	1	2	3	4	5	6	7

Facilitating Conditions

1	The equipment (printer/computer) in e-filing system is not compatible with other computers that I used for me to submit income tax form voluntarily.	1	2	3	4	5	6	7
2	The e-filing system is not compatible with other software systems I use to submit my income tax form voluntarily.	1	2	3	4	5	6	7
3	I will have trouble in submitting income tax form voluntarily through e-filing system.	1	2	3	4	5	6	7
4	For me, having e-filing service equipment that is compatible with other equipment that I use is important for the voluntarily submission of income tax form.	1	2	3	4	5	6	7
5	For me, having e-filing service software that is compatible with the software I use is important in the submission of income tax form voluntarily.	1	2	3	4	5	6	7
6	For me, whether or not I have trouble in using e-filing to submit my income tax form voluntarily is important.	1	2	3	4	5	6	7
7	I expect to get the help I need in using e-filing system to submit income tax form voluntarily.	1	2	3	4	5	6	7
8	It would be easy for me to get assistance when I am having trouble using e-filing system to submit income tax form voluntarily.	1	2	3	4	5	6	7
9	I expect clear instructions regarding the use of e-filing system in submitting income tax form voluntarily.	1	2	3	4	5	6	7

Ability to Pay

1	I can perform my tasks efficiently including paying tax after voluntarily declaring my income tax.	1	2	3	4	5	6	7
2	I am able to pay tax despite the obstacle after voluntarily declaring my income tax.	1	2	3	4	5	6	7
3	Despite facing with financial difficulties, I am still able to pay tax after voluntarily declaring my income tax every year.	1	2	3	4	5	6	7
4	I am able to pay tax after voluntarily declaring my income tax because I have paid income taxes beforehand.	1	2	3	4	5	6	7
5	I am able to achieve all my objectives including paying tax after voluntarily declaring my income tax.	1	2	3	4	5	6	7
6	I might need to defer tax payment through instalments when facing the highest financial difficulties during the decision to declare my income tax voluntarily.	1	2	3	4	5	6	7

Perceived Behavioural Control

1	I would be able to submit income form voluntarily by using the e-filing system.	1	2	3	4	5	6	7
2	Using the e-filing system to submit income tax form voluntarily is entirely within my control.	1	2	3	4	5	6	7
3	I have the resources, knowledge, and ability to submit my income tax form voluntarily by making use of the e-filing system.	1	2	3	4	5	6	7

SECTION FOUR: VOLUNTARY TAX COMPLIANCE INTENTION

Voluntary Tax Compliance Intention

1	I intend to comply voluntarily with income tax law via e-filing system.	1	2	3	4	5	6	7
2	I intend to comply voluntarily with income tax law via e-filing system by next income tax filing due date.	1	2	3	4	5	6	7
3	I intend to comply voluntarily with income tax law frequently via e-filing system.	1	2	3	4	5	6	7

SECTION FIVE: Demographic Details

1.	Age	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55- 64 ☐ >65

2.	Marital status	☐ Single ☐ Married	☐ Divorced

3.	Highest level of education	☐ High school	☐ Masters
		☐ Diploma / Certificate	☐ PhD/Doctorate
		☐ Bachelors	

4.	Household income per month	☐ < RM 5,000	☐ RM15,001–RM20,000
		☐ RM 5,001 – RM 10,000	☐ > RM 20,001
		☐ RM 10,001 – RM 15,000	

5.	Category of Employment	☐ Private Sector	☐ Government Servant (with Public Pension Scheme)
		☐ Government Linked Companies (GLC)	☐ Agencies/Department Under Government Ministries (without Public Pension Scheme)

6.	Sources of Income	☐ Salary from Employment only	☐ Combination of Salary & Business income
		☐ Combination of Salary & Other non-business income (rental, commission etc.)	☐ Others: Please specify _____

7.	Any Monthly Tax Deduction (PCB) in your salary payslips?	☐ Yes	☐ No

8.	How do you file your income tax forms?	☐ Personal Computer	☐ Laptop
		☐ Manual form	☐ Never submit form
		☐ PDA/ Smartphone/ Handphone	☐ Others: Please specify _____

Thank you very much for your time and cooperation. We greatly appreciate your
help in assisting us for this study.